

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration, National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service and World Agricultural Outlook Board

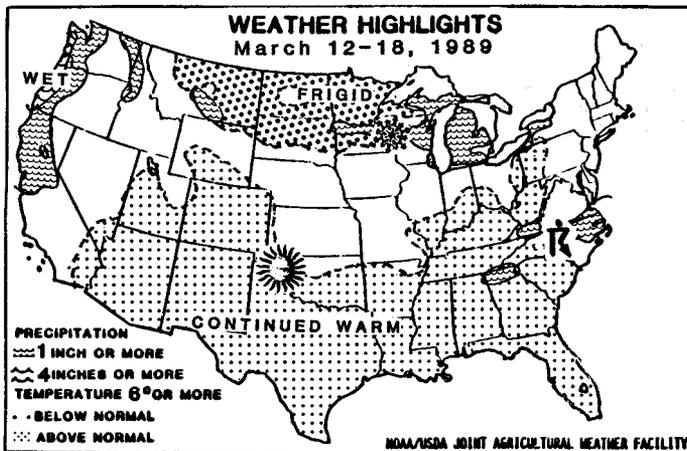
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Mar. 21, 1989

National Weather Summary

March 12-18, 1989



WEDNESDAY: The storm system moved into eastern Canada, producing blustery wind and rain over the Northeast. A cold front, crossing the Atlantic Coast States, triggered thunderstorms. Another cold front, approaching the northern Pacific coast, spread rain into the Northwest.

THURSDAY: Thunderstorms reached from the Carolinas into the Florida Panhandle as the cold front moved into the Atlantic. Gusty wind and snow were behind a second cold front moving southward over the northern Plains and upper Mississippi Valley. This front separated frigid air in the northern Plains from the unseasonably mild air in the central Plains. A third cold front trekked across the western States, producing rain, snow, and high wind.

FRIDAY: The cold front extended from the Northeast to the middle Mississippi Valley and produced severe thunderstorms in the warm, moist, unstable air along the front. Freezing rain and snow fell to the north from the western Corn Belt into New England. Precipitation was widespread from the Pacific Northwest to the northern High Plains.

SATURDAY: The cold front moved slowly across the East, causing widespread rain and thunderstorms from southern New England and lower Great Lakes into the Carolinas. Snow continued across upstate New York and northern New England. Precipitation was again spread across the Pacific Northwest into the northern Rockies.

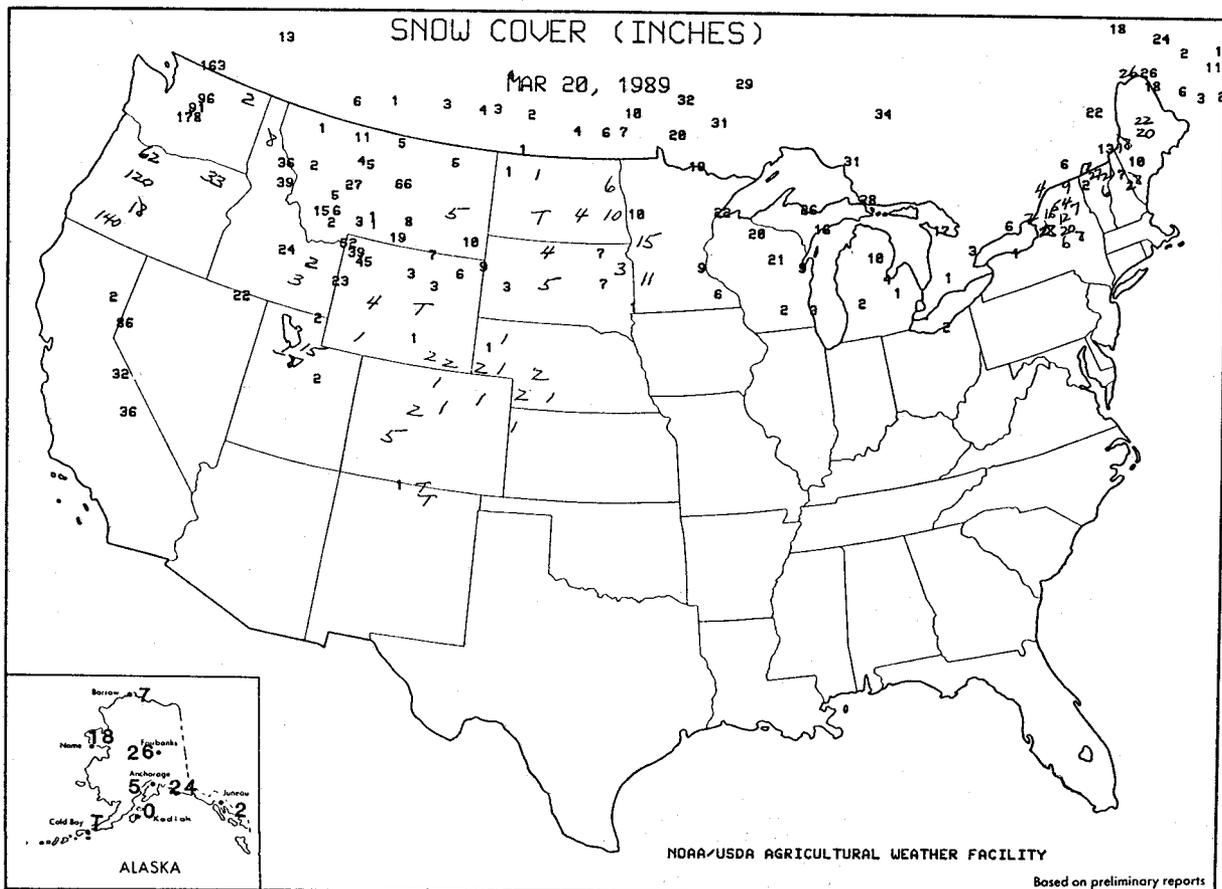
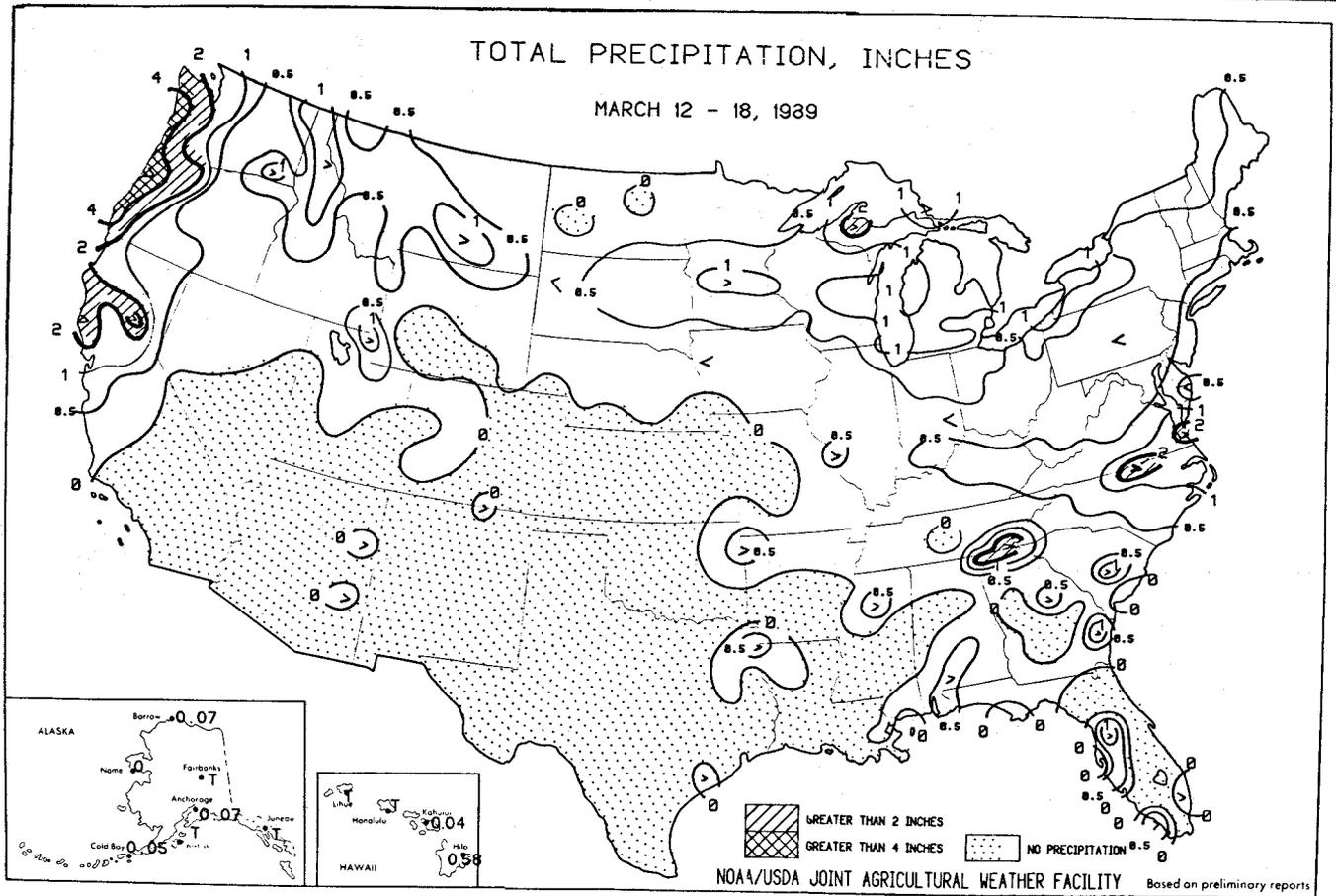
HIGHLIGHTS: A series of frontal systems brought continued rain and snow across the northern third of the Nation. Heavy rain fell along the northern Pacific coast and heavy snow in the upper Mississippi Valley and upper Great Lakes. Strong cold fronts caused thunderstorms to develop across the middle and southern Atlantic Coast States during the latter half of the week. Dry and abnormally warm weather prevailed across much of the southern half of the country, including the winter wheat regions in the central Plains. Frigid air persisted over the North Central States.

SUNDAY: Widespread rain continued in the Pacific Northwest. Rain showers were scattered across the middle Mississippi Valley, while scattered snow covered the upper Mississippi Valley and Northeast. Record heat persisted across the Southwest.

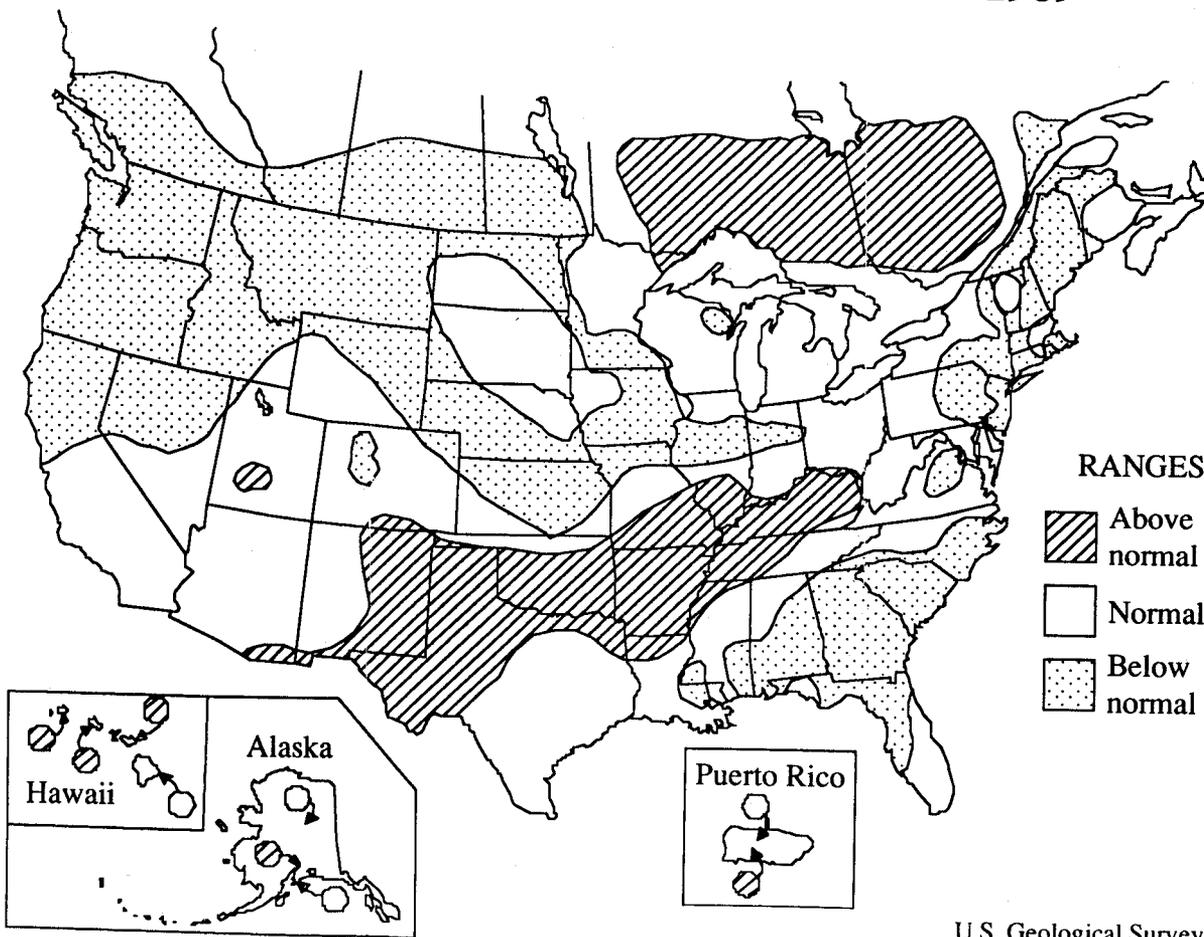
MONDAY: A cold front brought snow into the northern Plains and upper Mississippi Valley. Rain was widespread from Kentucky to the mid-Atlantic coast, while moist onshore wind continued to spread moisture into the Pacific Northwest. Gusty winds prevailed over much of the western half of the Nation. Clear skies allowed a rare viewing of the northern lights across the South.

TUESDAY: A powerful low pressure system, tracking northeastward out of the central Plains into the upper Great Lakes, brought snow and high wind. Thunderstorms, ahead of the system, produced hail and damaging winds in the Midwest, while strong winds in the central Plains created blowing dust. Snowfall was heavy in Wisconsin. Warm and fair weather remained across the southern half of the Nation.

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STREAMFLOW DURING FEBRUARY 1989



Streamflow During February 1989

Below-normal streamflows were reported in about one-third of the United States in February as a hydrological drought continued in parts of the Nation.

Record-low streamflows for the month were at Doctortown, GA, Orangeburg, SC, and Massapequa, NY.

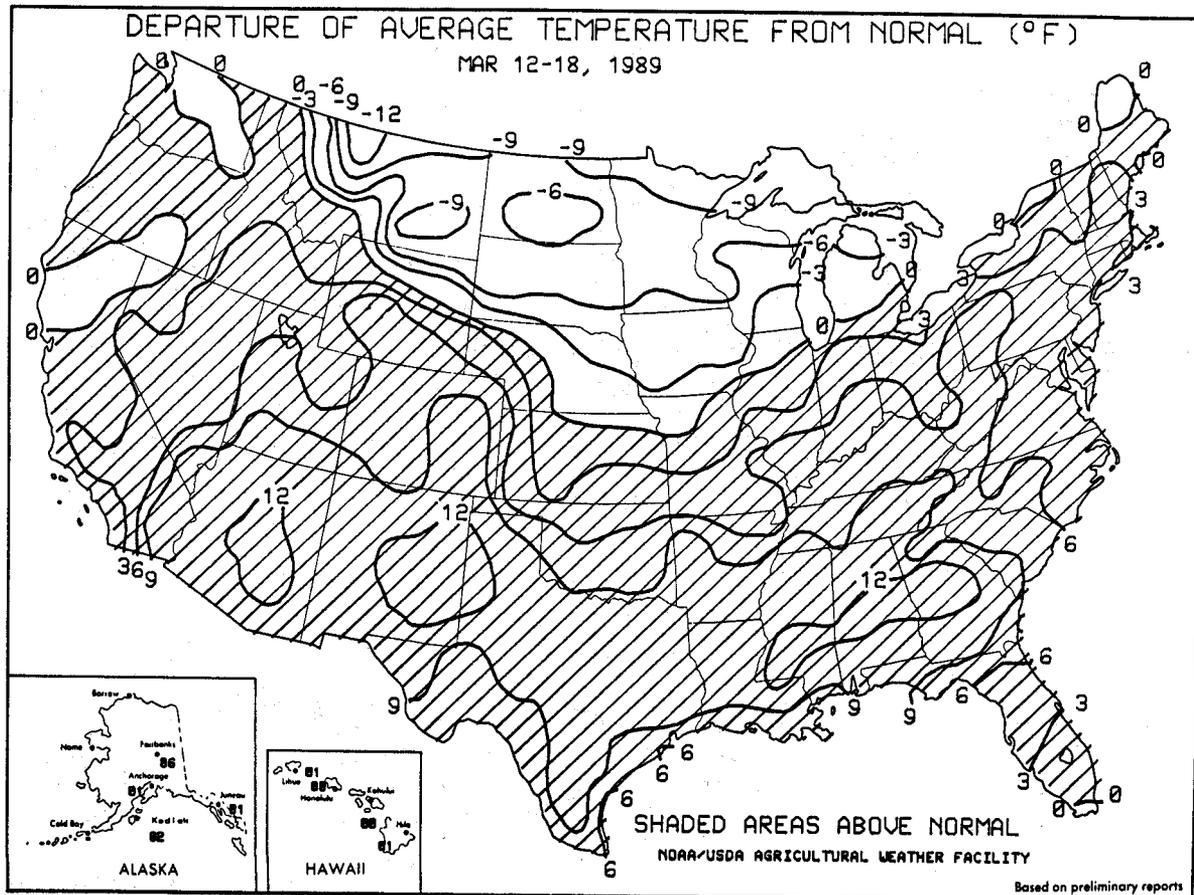
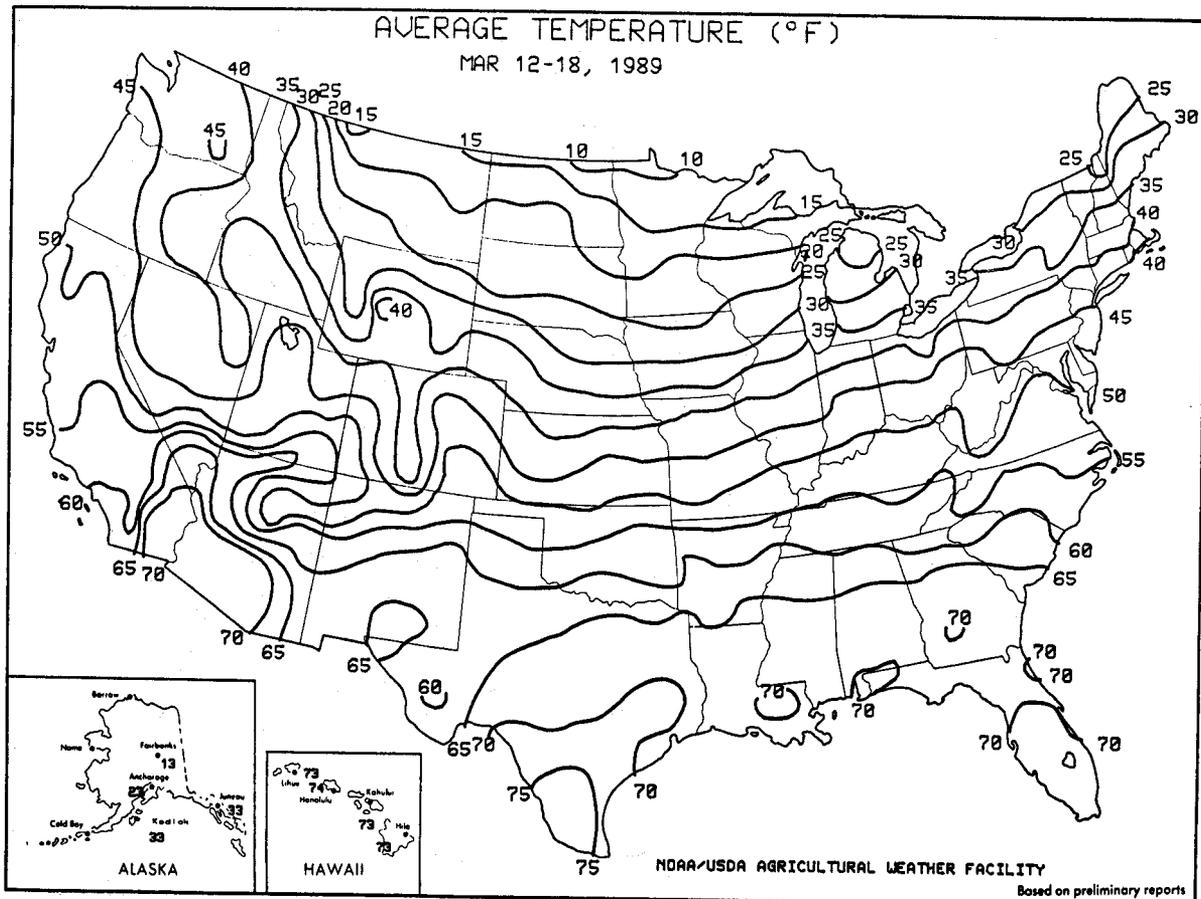
Flow of the Potomac River near Washington, DC, has been below normal for the past 10 months, while reservoir levels in the Delaware River basin are so low that additional mandatory restrictions on withdrawals from the reservoirs may soon be implemented and an official drought emergency could be declared.

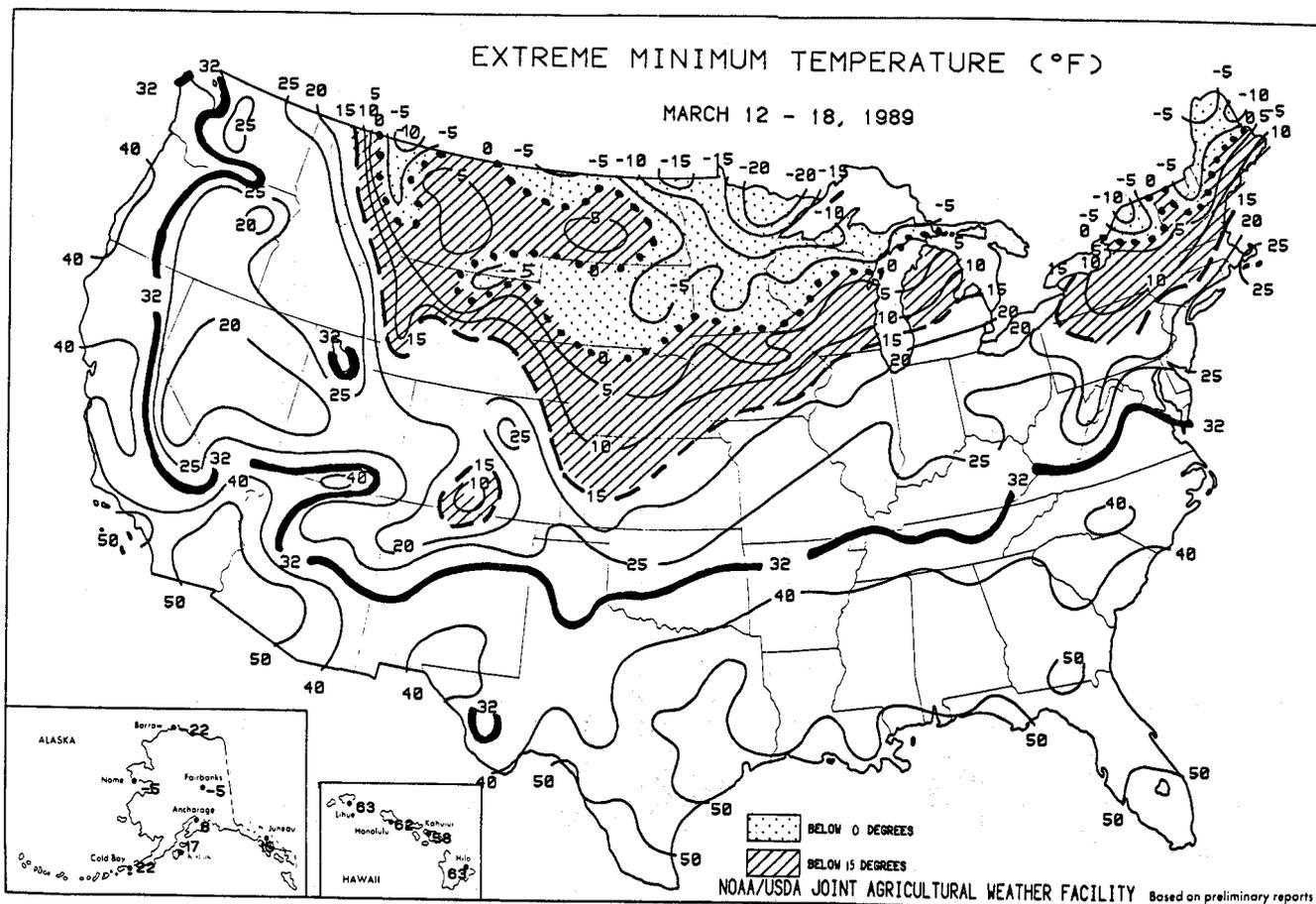
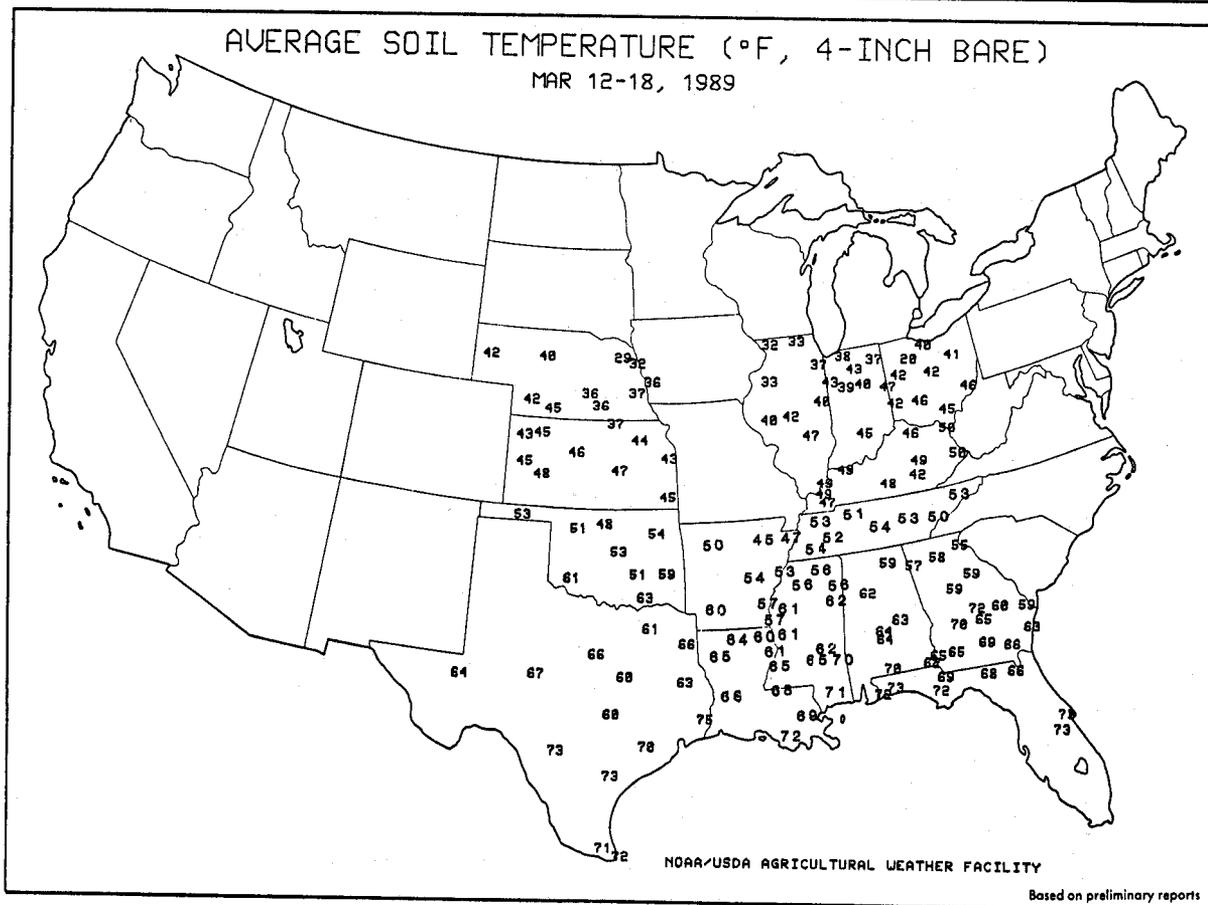
The latest tally shows 75 streamflow stations across the Nation reporting below-normal flows, 89 with flows in the normal range and only 27 stations reporting above-normal flows.

The national streamflow picture reflects the hydrologic drought that currently exists in the Pacific Northwest, South Dakota, California, southwest Florida, and Southeastern and Northeastern States.

Streams in the Northwest and the upper Midwest have generally flowed at below-normal levels since September 1988. Since then, areas of low streamflows have expanded into northern California and Nevada and additional States in the Midwest.

Also, during the past 6 months, many Northeastern and Southeastern States have recorded streamflow either in the normal or below-normal ranges. In the United States, only parts of Minnesota, Arizona, New Mexico, Colorado, Texas, Oklahoma, Louisiana, Arkansas, Missouri, Illinois, Kentucky, and Mississippi had above-normal flows in February.





National Weather Data for Selected Cities

Weather Data for the Week Ending March 18, 1989

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	79	51	82	44	65	12	0	-1.5	0	2.0	53	10.3	75	78	36	0	0	0	0
MOBILE	82	57	85	50	70	10	T	-1.5	T	1.3	35	4.9	37	99	49	0	0	1	0
MONTGOMERY	83	54	85	46	69	12	.1	-1.3	.1	2.6	75	7.5	62	93	35	0	0	1	0
AK ANCHORAGE	34	13	39	8	23	1	.1	-1.1	.1	.1	23	.5	27	89	59	0	7	1	0
BARROW	10	-4	25	-22	3	20	.1	0	.1	.2	257	.5	104	89	78	0	7	2	0
FAIRBANKS	28	-2	33	-5	13	5	T	-1.1	T	.1	36	1.6	130	82	41	0	7	0	0
JUNEAU	43	22	47	15	33	2	T	-1.8	T	.3	14	7.1	76	85	41	0	7	0	0
KODIAK	42	24	50	17	33	2	T	-1.9	T	T	0	4.0	30	73	40	0	7	0	0
NOME	21	-3	28	-5	12	6	0	-1.1	0	.3	113	3.3	209	86	59	0	7	0	0
AZ PHOENIX	89	60	92	58	74	14	0	-2.2	0	T	4	1.2	67	33	13	2	0	0	0
PRESCOTT	71	37	76	31	54	12	0	-4.4	0	T	4	1.7	41	51	15	0	1	0	0
TUCSON	88	51	93	49	70	12	0	-2.2	0	T	0	1.2	65	39	9	1	0	0	0
YUMA	89	59	93	56	74	10	0	0	0	T	0	.6	85	53	15	3	0	0	0
AR FORT SMITH	76	45	91	36	60	10	.2	-1.7	.2	2.6	121	12.6	194	89	29	1	0	1	0
LITTLE ROCK	71	50	80	41	61	9	T	-1.1	T	2.3	88	14.1	137	69	38	0	0	0	0
CA BAKERSFIELD	71	44	76	38	57	1	T	-2.2	T	.3	56	1.3	50	87	35	0	0	0	0
EUREKA	58	44	65	39	51	3	1.7	.5	.5	4.4	143	12.0	79	85	62	0	0	6	2
FRESNO	66	45	71	38	56	2	.1	-3.3	.1	1.1	119	2.8	58	94	45	0	0	1	0
LOS ANGELES	64	52	68	50	58	0	0	-4.4	0	.3	27	2.6	39	92	65	0	0	1	0
REDDING	59	41	64	34	50	-4	1.6	.5	.8	7.9	256	11.1	62	96	46	0	0	4	2
SACRAMENTO	63	46	70	42	54	1	.7	.3	.4	4.0	313	5.9	73	91	47	0	0	2	0
SAN DIEGO	65	54	68	53	60	1	0	-4.4	0	.1	6	1.2	24	90	64	0	0	0	0
SAN FRANCISCO	61	47	66	43	54	2	1.3	.7	.7	3.3	203	5.8	62	92	58	0	0	3	2
CO DENVER	63	31	74	25	47	10	0	-3.0	0	.3	49	2.1	118	74	17	0	4	0	0
GRAND JUNCTION	63	34	72	22	49	7	0	-2.2	0	.3	78	2.7	169	60	19	0	3	0	0
PUEBLO	70	32	80	19	51	11	0	-2.0	0	T	0	1.1	133	63	14	0	4	0	0
CT BRIDGEPORT	50	35	62	20	43	5	.5	-4.4	.5	.7	31	4.5	54	79	50	0	2	1	1
HARTFORD	53	29	70	14	41	5	.3	-7.7	.2	.4	15	3.1	34	85	36	0	4	3	0
DC WASHINGTON	62	39	81	31	51	5	.2	-6.6	.2	1.6	80	6.9	94	89	44	0	1	2	0
FL APALACHICOLA	76	58	82	54	67	7	0	-9.9	0	1.1	44	4.2	44	99	65	0	0	0	0
DAYTONA BEACH	82	55	84	44	69	5	0	-7.0	0	1.2	64	8.6	118	97	47	0	0	0	0
JACKSONVILLE	84	55	86	44	69	7	0	-8.8	0	.9	41	4.4	51	96	40	0	0	0	0
KEY WEST	78	65	81	56	72	-2	.2	-1.1	.2	1.0	125	1.7	39	91	60	0	0	2	0
MIAMI	81	63	83	54	72	0	.1	-4.4	.1	.4	35	1.7	34	90	48	0	0	1	0
ORLANDO	84	57	87	46	71	4	T	-8.8	T	1.0	51	5.0	69	100	38	0	0	0	0
TALLAHASSEE	85	53	88	42	69	9	T	-1.3	T	.7	21	4.1	32	98	36	0	0	1	0
TAMPA	81	59	86	46	70	4	T	-8.8	T	1.5	69	3.4	46	96	46	0	0	0	0
WEST PALM BEACH	81	62	83	54	71	1	.1	-5.5	.1	1.5	96	3.5	51	93	49	0	0	2	0
GA ATLANTA	79	52	83	45	65	13	T	-1.4	T	.7	21	7.6	59	82	33	0	0	0	0
AUGUSTA	80	50	87	37	65	11	.2	-1.0	.2	1.9	66	6.6	61	94	41	0	0	1	0
MACON	83	55	85	47	69	13	T	-1.2	T	2.4	78	8.8	75	94	34	0	0	0	0
SAVANNAH	82	53	86	46	67	9	T	-9.9	T	.5	24	1.7	19	94	44	0	0	1	0
HI HILO	80	64	84	63	72	1	.6	-2.5	.3	5.5	70	39.5	128	95	62	0	0	4	0
HONOLULU	83	65	84	62	74	0	T	-8.8	T	2.6	124	11.2	130	90	54	0	0	0	0
KAHULUI	82	63	84	58	72	0	T	-6.6	T	2.5	148	9.5	110	91	58	0	0	1	0
LIHUE	79	67	81	63	73	1	T	-1.1	T	8.0	303	26.4	211	91	64	0	0	0	0
ID BOISE	53	35	63	28	44	3	.5	.3	.3	1.4	246	3.7	114	85	43	0	2	4	0
LEWISTON	55	41	65	37	48	5	.5	.3	.4	.9	154	2.7	94	75	47	0	0	2	0
POCATELLO	48	29	63	26	38	3	.4	.2	.2	1.8	362	3.8	156	87	40	0	7	3	0
IL CHICAGO	44	27	62	17	36	-1	.6	0	.3	1.1	80	2.7	65	89	59	0	5	3	0
MOLINE	43	26	61	19	35	-1	.2	-4.4	.2	.9	64	3.3	77	89	59	0	4	1	0
PBORIA	48	29	66	19	38	1	.1	-5.5	.1	.6	41	2.8	61	89	53	0	5	1	0
QUINCY	53	30	69	22	41	3	.1	-6.6	.1	.4	26	1.7	39	95	47	0	4	2	0
ROCKFORD	38	26	54	17	32	-1	.1	-4.4	.1	.8	63	2.2	58	88	65	0	6	1	0
SPRINGFIELD	53	31	72	23	42	3	.4	-6.6	.1	.8	48	2.9	60	94	56	0	4	2	0
IN EVANSVILLE	66	36	79	25	51	7	.1	-7.7	.2	2.6	100	13.0	151	92	47	0	4	3	0
FORT WAYNE	53	27	65	23	40	4	.6	-1.1	.3	.9	56	4.0	71	93	58	0	7	3	0
INDIANAPOLIS	61	31	74	23	46	7	.1	-8.8	0	1.8	89	4.9	69	90	47	0	3	3	0
SOUTH BEND	48	28	63	21	38	3	.9	.2	.7	1.1	70	3.8	62	90	57	0	6	4	1
IA DES MOINES	39	24	59	11	31	-3	T	-5.5	T	.3	23	2.6	82	86	56	0	5	1	0
STOUC CITY	37	21	49	6	29	-4	.3	-1.1	.2	.7	75	2.0	81	91	62	0	5	2	0
WATERLOO	33	22	43	9	27	-4	.3	-2.2	.3	.7	66	2.1	74	91	66	0	7	2	0
KS CONCORDIA	53	27	71	14	40	0	0	-4.4	0	T	2	1.1	46	83	38	0	4	0	0
DODGE CITY	59	29	72	15	44	2	0	-3.0	0	T	0	.5	31	81	31	0	4	0	0
GOODLAND	60	25	73	13	43	6	T	-2.2	T	.1	9	.4	33	88	26	0	5	0	0
TOPEKA	56	29	71	19	42	1	0	-5.0	0	.1	8	2.2	71	80	34	0	4	0	0
WICHITA	64	32	75	20	48	4	0	-5.0	0	T	0	1.2	45	79	28	0	5	0	0
KY BOWLING GREEN	68	38	79	28	53	7	.1	-1.1	.1	3.0	95	20.2	171	91	44	0	3	1	0
LEXINGTON	65	36	76	25	51	7	.9	-2.2	.5	3.2	115	17.3	180	88	45	0	3	3	1
LOUISVILLE	66	36	78	27	51	7	.7	-4.4	.3	2.5	94	15.2	164	88	43	0	1	3	0
LA ALEXANDRIA	79	58	81	48	68	10	0	-1.1	0	1.5	53	15.7	132	86	45	0	0	0	0
BATON ROUGE	83	61	86	50	72	12	0	-1.0	0	.9	32	6.4	52	95	45	0	0	0	0
LAKE CHARLES	79	60	81	49	69	9	0	-7.0	0	.7	38	5.9	60	99	61	0	0	0	0
NEW ORLEANS	81	59	83	46	70	9	T	-1.0	T	.7	26	3.4	26	100	52	0	0	1	0

Based on 1951-80 normals

Weather Data for the Week Ending March 18, 1989

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE OF		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	79	53	85	43	66	9	.1	-.7	1.2	.8	39	12.1	126	94	43	0	0	1	0
ME CARIBOU	32	16	47	-9	24	0	1.3	-.2	1.2	.6	43	3.9	67	86	49	0	7	4	0
PORTLAND	42	27	55	14	35	3	1.2	-.7	1.1	.2	11	3.8	39	83	45	0	4	3	0
MD BALTIMORE	60	36	80	27	48	5	1.2	-.6	1.2	1.8	85	8.2	102	93	45	0	2	2	0
SALISBURY	61	36	77	27	49	5	1.3	-.7	1.2	2.4	102	7.0	77	95	49	0	3	3	0
MA BOSTON	48	31	66	19	40	2	1.6	-.4	1.5	.7	28	3.8	38	86	43	0	4	2	0
CHATHAM	45	33	51	26	39	3	1.7	.8	1.0	1.9	80	7.1	65	94	66	0	2	2	0
MI ALPENA	31	12	39	8	22	-5	1.4	1.0	.9	2.1	214	4.2	103	95	58	0	7	5	0
DETROIT	47	25	63	21	36	2	1.0	.5	.4	1.3	94	3.4	69	93	63	0	7	4	0
FLINT	43	21	59	16	32	0	1.2	.8	.7	1.5	135	3.3	81	92	59	0	7	5	1
GRAND RAPIDS	39	23	57	18	31	-2	1.3	.8	.6	1.7	130	3.7	77	93	57	0	7	5	2
HOUGHTON LAKE	31	17	42	8	24	-3	1.4	1.0	.7	2.3	232	4.0	106	86	59	0	7	4	1
LANSING	42	22	59	16	32	-1	.8	.3	.6	1.1	84	2.9	68	91	62	0	7	5	1
MARQUETTE	24	5	36	-8	14	-8	2.0	1.4	1.8	2.8	186	6.2	115	93	61	0	7	2	1
MUSKEGON	38	22	53	10	30	-2	.9	.3	.4	1.4	107	4.1	76	94	61	0	7	4	0
SAULT ST. MARIE	26	6	34	-6	16	-8	.8	.4	.5	1.5	136	5.6	113	88	54	0	7	4	1
MN ALEXANDRIA	23	8	35	-5	16	-8	.3	0	.3	.5	88	1.4	67	88	63	0	7	2	0
DULUTH	22	6	33	-13	14	-9	.3	-.1	.3	.6	59	2.8	92	85	46	0	7	4	0
INT'L FALLS	22	-2	33	-22	10	-10	1.2	-.1	.1	.2	37	1.9	91	90	49	0	7	3	0
MINNEAPOLIS	26	16	38	-1	21	-7	1.2	.8	.8	1.9	209	3.4	135	88	59	0	6	4	1
ROCHESTER	27	16	38	-2	21	-7	.8	.4	.5	1.5	166	2.3	96	91	65	0	7	3	1
MS GREENWOOD	76	53	84	45	65	10	1.1	-1.4	0	.4	11	14.1	107	84	41	0	0	2	0
JACKSON	83	54	86	47	68	13	0	-1.3	0	1.8	59	8.7	71	94	42	0	0	0	0
MERIDIAN	82	52	85	42	67	12	0	-1.5	0	3.0	78	10.0	75	91	36	0	0	0	0
MO CAPE GIRARDEAU	65	40	77	30	53	--	1.1	-1.1	1.1	3.1	111	16.5	188	88	49	0	2	2	0
COLUMBIA	57	30	75	24	44	2	T	-.8	T	.8	43	3.7	68	89	40	0	5	0	0
KANSAS CITY	54	29	70	18	42	-1	0	-.6	0	.2	2	1.6	42	82	35	0	4	0	0
SAINT LOUIS	58	36	80	29	47	4	.5	-.2	.5	1.5	82	5.5	97	81	38	0	3	2	0
SPRINGFIELD	64	34	79	26	49	5	T	-.8	T	3.0	162	6.6	117	84	37	0	3	0	0
MT BILLINGS	32	16	61	6	24	-9	1.0	0	.3	1.5	302	3.3	155	86	62	0	6	5	0
GLASGOW	25	13	36	1	19	-8	1.1	0	0	.1	80	1.4	172	90	65	0	7	3	0
GREAT FALLS	28	11	48	5	19	-12	.9	.7	.3	1.4	283	3.5	160	94	70	0	7	5	0
HAVRE	24	12	38	1	18	-11	T	-.1	T	T	17	.8	65	90	67	0	7	1	0
HELENA	32	14	48	-5	23	-8	.7	.6	.4	1.3	346	3.5	238	94	61	0	7	4	0
KALISPELL	36	24	41	14	30	-2	.3	-.1	-.1	1.1	212	3.7	119	93	65	0	7	5	0
MILES CITY	26	14	37	2	20	-10	.2	.1	-.1	.5	157	1.8	121	74	57	0	6	5	0
MISSOULA	39	24	53	13	31	-3	.6	.5	.2	1.6	351	2.8	107	94	57	0	7	4	0
NE GRAND ISLAND	44	23	52	8	33	-2	1	-.2	.1	.4	51	1.7	84	90	52	0	5	3	0
LINCOLN	43	24	55	11	34	-2	T	-.4	T	.1	8	2.0	76	85	51	0	5	0	0
NORFOLK	39	20	48	4	29	-4	.2	-.1	.2	.8	104	2.6	126	94	60	0	5	2	0
NORTH PLATTE	47	22	53	7	35	1	T	-.2	T	.3	46	1.6	107	93	43	0	5	1	0
OMAHA	40	22	54	9	31	-6	T	-.4	T	.3	32	1.8	71	84	63	0	5	1	0
SCOTT'SBLUFF	54	23	65	13	39	4	T	-.2	T	.4	76	1.4	106	94	30	0	6	1	0
VALENTINE	42	16	57	-1	29	-3	.1	-.1	-.1	.4	107	1.2	111	86	53	0	6	2	0
NV ELY	55	24	67	15	40	7	T	-.2	T	.2	46	1.2	62	66	19	0	7	0	0
LAS VEGAS	78	53	86	43	66	10	0	-.1	0	T	0	.6	49	32	12	0	0	0	0
RENO	57	31	65	24	44	4	.2	0	.1	.3	72	1.3	51	84	27	0	4	3	0
WINNEMUCCA	55	28	63	20	41	3	1	-.1	.1	.5	140	1.4	73	83	29	0	5	2	0
NH CONCORD	45	25	63	10	35	4	T	-.6	T	.1	6	2.9	42	85	42	0	6	1	0
NJ ATLANTIC CITY	59	33	78	22	46	5	.6	-.4	.5	2.0	86	7.9	86	89	43	0	2	2	1
NM ALBUQUERQUE	75	41	82	32	58	12	0	-.1	0	.1	18	1.0	93	33	9	0	1	0	0
CLOVIS	77	42	88	34	60	14	0	-.1	0	.1	24	.8	64	49	13	0	0	0	0
ROSWELL	82	46	93	40	64	13	0	-.1	0	.1	41	.9	86	42	13	1	0	0	0
NY ALBANY	46	24	61	7	35	2	.1	-.6	.1	.3	15	2.3	37	80	42	0	6	2	0
BINGHAMTON	49	22	63	7	35	4	.3	-.4	.2	.5	32	4.0	62	89	42	0	6	2	0
BUFFALO	46	24	65	14	35	2	.6	-.1	.4	.9	55	5.2	75	89	52	0	6	4	0
NEW YORK	55	36	72	22	46	5	.5	-.4	.5	.9	41	6.3	74	77	40	0	2	1	1
ROCHESTER	45	23	60	9	34	1	1.0	.5	.7	1.7	117	4.4	72	89	54	0	6	3	1
SYRACUSE	47	23	63	7	35	2	.7	-.1	.6	1.1	80	3.8	55	87	40	0	7	3	1
NC ASHEVILLE	66	39	73	35	53	7	.3	-.8	.3	1.2	44	7.5	82	90	45	0	0	3	0
CHARLOTTE	71	47	80	40	59	9	T	-1.1	T	1.3	45	7.6	73	89	40	0	0	1	0
GREENSBORO	67	42	77	36	55	7	.6	-.3	.3	3.0	133	8.4	93	93	44	0	0	3	0
HATTERAS	65	46	74	33	55	4	1.5	.6	1.2	2.7	116	9.2	82	98	66	0	0	4	1
NEW BERN	69	44	83	38	57	4	.8	0	.6	1.6	71	8.2	80	98	58	0	0	2	1
RALEIGH	69	43	82	36	56	7	.7	-.2	.3	2.4	108	10.1	111	93	45	0	0	4	0
WILMINGTON	70	45	80	36	58	4	.5	-.5	.4	2.2	90	6.4	67	98	58	0	0	3	0
ND BISMARCK	28	16	41	6	22	-4	1	-.1	-.1	.2	73	1.1	83	87	56	0	7	1	0
FARGO	24	7	35	-5	16	-8	.3	0	.3	.8	211	2.8	220	89	65	0	7	3	0
GRAND FORKS	23	4	35	-7	13	-8	.2	0	.2	.3	64	2.0	122	83	62	0	7	1	0
WILLISTON	26	10	37	-2	18	-7	T	-.1	T	.1	19	1.4	118	89	55	0	7	2	0
OH AKRON-CANTON	58	28	68	23	43	7	.5	-.3	.4	1.3	69	5.6	85	86	50	0	5	2	0
CINCINNATI	62	32	74	22	47	6	.4	-.5	.4	1.9	84	9.8	122	88	50	0	3	3	0
CLEVELAND	54	27	68	20	40	4	.5	-.2	.5	.8	48	4.6	73	90	46	0	6	2	0
COLUMBUS	59	30	70	26	45	5	.2	-.6	.1	1.2	70	6.3	94	91	48	0	6	3	0

Weather Data for the Week Ending March 18, 1989

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	59	31	71	26	45	6	.6	-.1	.5	2.4	140	7.7	122	87	53	0	5	2	0
TOLEDO	51	26	65	21	38	3	.8	-.2	.5	1.1	81	3.7	71	90	52	0	7	2	0
YOUNGSTOWN	58	27	67	16	42	8	.5	-.3	.3	.9	48	4.7	71	87	40	6	6	2	0
OK OKLAHOMA CITY	71	42	87	31	57	8	0	-.5	0	.6	53	4.0	117	72	26	0	1	0	0
TULSA	69	40	84	30	55	6	.1	-.6	.1	.5	91	6.7	142	72	32	0	2	1	0
OR ASTORIA	51	42	52	38	46	2	4.1	2.4	1.2	6.8	155	21.6	95	94	74	0	0	0	5
BURNS	46	26	53	23	36	0	.5	.3	.5	1.1	204	1.7	53	81	48	0	6	1	0
MEDFORD	57	38	66	33	48	2	.6	.2	.3	3.1	273	6.0	90	93	47	0	0	5	0
PENDLETON	52	37	65	32	44	0	.7	.5	.3	1.4	213	4.7	135	87	53	0	0	1	0
PORTLAND	52	41	56	39	47	1	1.9	1.0	.8	4.4	204	10.6	86	94	66	0	0	5	1
SALEM	53	41	61	37	47	3	2.2	1.2	.8	4.7	180	11.1	78	95	63	0	0	6	2
PA ALLENTOWN	56	29	75	16	43	5	.3	-.6	.3	1.2	56	5.2	61	81	42	0	5	2	0
ERIE	48	25	68	15	37	4	1.3	.6	1.2	1.5	95	6.4	107	86	48	0	0	7	1
HARRISBURG	57	32	76	19	45	5	.2	-.7	.2	1.6	79	5.8	75	79	44	0	4	1	0
PHILADELPHIA	59	35	78	24	47	6	.2	-.7	.2	1.4	62	7.0	87	85	40	0	2	1	0
PITTSBURGH	61	30	72	24	45	7	.4	-.5	.2	1.9	97	7.3	102	80	40	0	4	2	0
SCRANTON	54	28	67	12	41	5	.2	-.4	.2	.4	26	3.1	55	77	37	0	4	1	0
RI PROVIDENCE	51	29	68	21	40	3	.8	-.1	.7	1.1	44	4.8	47	93	45	0	3	2	1
SC CHARLESTON	77	52	84	43	65	8	0	-1.0	0	1.9	71	5.1	55	93	52	0	0	0	0
COLUMBIA	77	48	85	37	63	9	.2	-1.0	.2	1.9	62	7.0	61	91	40	0	0	1	0
FLORENCE	75	48	86	39	62	7	.3	-.7	.2	2.2	89	6.7	72	94	45	0	0	2	0
GREENVILLE	71	43	79	36	57	6	.6	-1.3	.1	1.0	29	7.4	61	92	49	0	0	1	0
SD ABERDEEN	24	14	36	-6	19	-8	.1	.4	.4	1.0	202	1.9	116	90	74	0	7	3	0
HURON	31	13	44	-8	22	-7	1.0	.7	.4	1.9	294	2.9	162	94	68	0	0	5	0
RAPID CITY	35	14	55	-4	24	-8	.4	.2	.1	.9	184	1.3	86	96	73	0	7	4	0
SIoux FALLS	32	16	43	1	24	-6	.4	.1	.3	1.0	116	1.7	76	92	70	0	5	3	0
TN CHATTANOOGA	74	45	80	39	59	10	1.4	-.1	.9	3.2	87	15.7	115	92	44	0	0	2	1
KNOXVILLE	73	44	79	35	58	9	.3	-1.0	.3	.8	25	12.0	100	85	42	0	0	2	0
MEMPHIS	75	49	84	38	62	11	.1	-1.1	.1	1.6	51	20.0	167	79	42	0	0	1	0
NASHVILLE	73	42	81	32	58	9	.2	-1.1	.2	3.5	109	17.4	149	84	36	0	1	1	0
TX ABILENE	80	50	93	40	65	10	0	-.2	0	.6	107	4.2	167	62	23	2	0	0	0
AMARILLO	75	37	86	26	56	10	0	-.2	0	T	0	.7	47	53	14	0	2	0	0
AUSTIN	81	58	90	49	69	9	0	-.4	0	.4	43	5.1	101	93	38	1	0	0	0
BEAUMONT	78	59	81	50	69	9	T	-.7	T	.8	46	7.8	77	99	60	0	0	0	0
BROWNSVILLE	84	63	85	53	74	5	0	-.1	0	T	11	2.1	68	98	52	0	0	0	0
CORPUS CHRISTI	82	61	85	47	72	6	0	-.2	0	T	0	2.9	83	100	59	0	0	0	0
DEL RIO	84	57	95	51	71	7	0	-.1	0	0	0	2.0	118	66	25	2	0	0	0
EL PASO	83	49	89	41	66	11	0	-.1	0	T	0	.8	82	32	13	0	0	0	0
FORT WORTH	79	53	92	43	66	10	0	-.5	0	.2	17	6.4	135	78	33	1	0	0	0
GALVESTON	72	61	74	56	67	6	0	-.5	0	.1	7	6.5	100	100	75	0	0	0	0
HOUSTON	81	61	85	51	71	10	T	-.6	T	.9	61	6.6	80	98	56	0	0	0	0
LUBBOCK	80	43	94	35	62	12	0	-.2	0	.3	59	1.8	129	54	13	1	0	0	0
MIDLAND	82	46	95	37	64	9	0	-.1	0	.2	54	1.7	134	63	15	2	0	0	0
SAN ANGELO	83	50	94	39	67	10	0	-.2	0	.2	42	3.8	208	69	23	4	0	0	0
SAN ANTONIO	84	58	91	45	71	10	T	-.3	T	T	6	3.3	81	92	34	2	0	0	0
VICTORIA	81	62	85	52	72	8	T	-.3	T	.1	12	4.5	92	95	53	0	0	0	0
WACO	81	54	90	47	68	10	0	-.4	0	.6	55	5.3	112	86	39	1	0	0	0
WICHITA FALLS	77	46	95	36	62	9	0	-.4	0	.9	102	5.5	194	74	27	2	0	0	0
UT CEDAR CITY	62	34	70	24	48	9	0	-.3	0	.6	92	1.8	89	63	20	0	3	0	0
SALT LAKE CITY	56	35	67	32	46	5	.1	-.3	.1	.9	95	2.9	81	71	29	0	1	2	0
VT BURLINGTON	40	21	59	1	30	1	.8	.3	.7	1.3	105	2.4	50	84	45	0	6	4	0
VA NORFOLK	64	41	81	31	52	4	1.9	1.0	1.0	4.6	201	13.6	148	96	57	0	1	5	2
RICHMOND	65	39	82	33	52	5	1.0	.2	.4	2.7	128	8.9	106	98	53	0	0	4	0
ROANOKE	63	37	78	32	50	4	.7	-.2	.3	1.7	76	5.0	61	91	47	0	1	3	0
WA QUILLAYUTE	49	37	52	32	43	1	3.3	.5	.8	6.3	87	28.2	83	99	75	0	0	1	3
SEATTLE-TACOMA	50	39	53	35	44	0	1.5	.7	.7	4.0	184	10.3	83	97	72	0	0	7	7
SPOKANE	45	31	57	27	38	1	.7	.4	.3	2.2	277	4.4	91	98	64	0	5	5	0
YAKIMA	53	32	61	25	42	1	.1	0	.1	.9	263	1.8	72	91	44	0	4	1	0
WV BECKLEY	60	36	74	30	48	7	.4	-.6	.3	1.4	61	7.6	86	79	42	0	2	2	0
CHARLESTON	65	35	79	29	50	6	.4	-.5	.3	3.3	146	12.3	139	85	37	0	2	3	0
HUNTINGTON	65	35	79	27	50	5	.4	-.5	.3	3.4	149	15.7	188	87	37	0	2	3	0
PARKERSBURG	63	33	76	27	48	5	.3	-.6	.2	2.8	138	10.9	146	83	38	0	4	2	0
WI GREEN BAY	30	18	38	7	24	-4	1.2	.7	.7	2.7	278	3.5	110	95	59	0	7	4	1
LACROSSE	30	20	41	1	25	-6	.4	0	.3	1.9	197	2.7	98	89	57	0	6	3	0
MADISON	35	23	43	8	29	-2	.6	.1	.4	1.4	126	2.5	79	89	59	0	6	3	0
MILWAUKEE	38	24	48	14	31	-1	.8	.2	.6	2.0	150	3.6	83	91	62	0	7	4	1
WAUSAU	27	14	37	3	21	-6	1.0	.5	.5	1.7	172	2.9	103	92	59	0	7	3	0
WY CASPER	49	20	65	14	35	3	.2	-.1	.1	.3	52	1.8	118	91	36	0	7	2	0
CHEYENNE	53	26	65	19	40	8	T	-.2	T	.1	19	1.6	126	81	24	0	6	1	0
LANDER	54	27	64	20	41	9	0	-.2	0	.1	9	.8	51	57	18	0	5	0	0
SHERIDAN	34	14	60	-5	24	-8	.6	.3	.4	.6	115	1.4	70	95	61	0	6	4	0
PR SAN JUAN	81	70	82	68	76	-2	1.7	1.2	.6	2.4	203	6.8	109	92	68	0	6	7	1

Heating Degree Days Summary

CLIMATE ANALYSIS CENTER-MNC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NWS-NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 3-18-1989

ACCUMULATIONS ARE FROM JULY 1

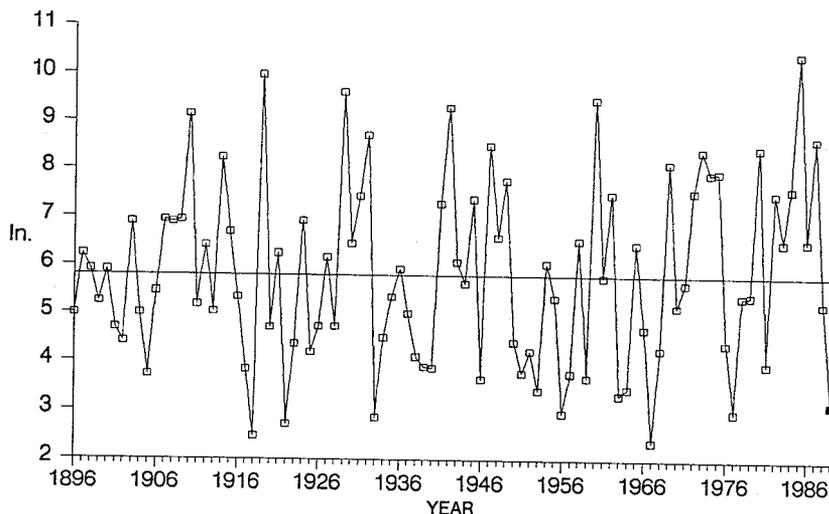
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK WEEK, CUM CUM CUM CUM, CUM CUM CUM CUM. Rows list various cities and their corresponding heating degree day data.

Figure 1

KANSAS AREALLY-AVERAGED PRECIPITATION

OCT-FEB, 1895-96 to 1988-89

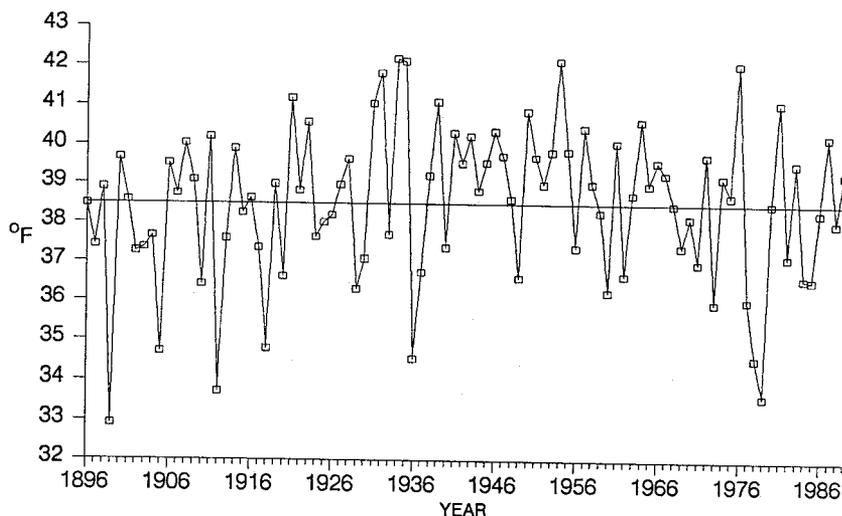


National Climatic Data Center, NOAA

Figure 2

KANSAS AREALLY-AVERAGED TEMPERATURE

OCT-FEB, 1895-96 to 1988-89



National Climatic Data Center, NOAA

The Kansas Drought: How Does It Compare With Past Years?

Kansas is currently experiencing one of its worst cold season droughts of record. Cumulative precipitation for the October-February period beginning with 1895-96 and ending with 1988-89 is shown in figure 1. Precipitation from October 1988 through February 1989 totaled only slightly more than 3 inches when averaged over the entire State. Since 1895, this is the seventh driest period, and in the past 50 years, this is the fourth driest period. The last time Kansas experienced a drought as severe as in 1977. The 1988-89 period essentially covers the growing season to date for the Kansas winter wheat crop, which is mostly in very poor to poor condition because of the adverse weather conditions experienced in the past 6 months.

Rain and snow fell during much of the day on Monday, March 20, but most of the major crop areas in the State recorded only around one-fourth of an inch or less of melted precipitation. Totals for March so far remain well below normal. Both Goodland and Dodge City, for instance, have measured under one-tenth of an inch this month, even including the precipitation which fell on March 20.

Figure 2 depicts the historical time series of temperature. Readings have averaged above normal, but the graph does not indicate the extremes which have occurred this year, such as the early February cold wave which brought temperatures down from the 70's and 80's to the teens within 36 hours.

Kansas usually produces around 15-20 percent of the Nation's total wheat crop.

Figure 1

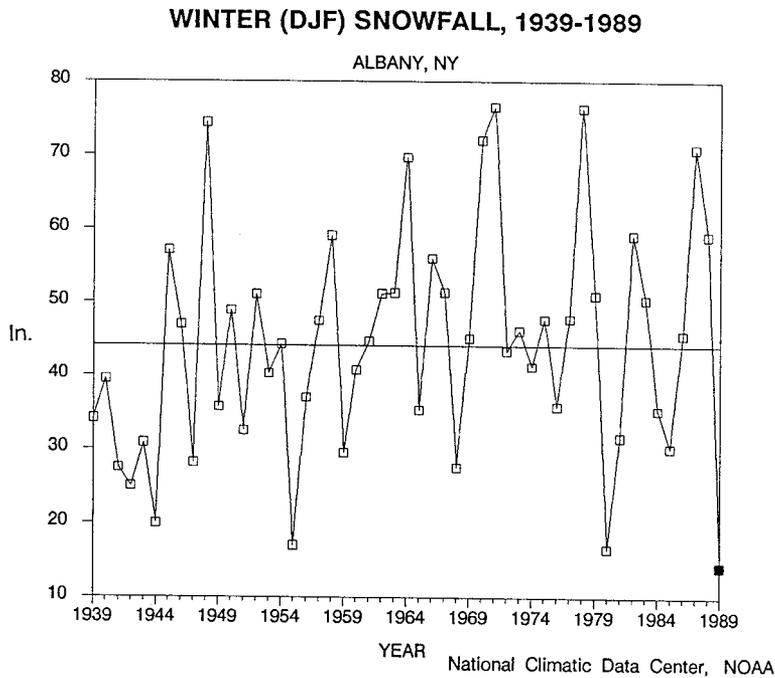
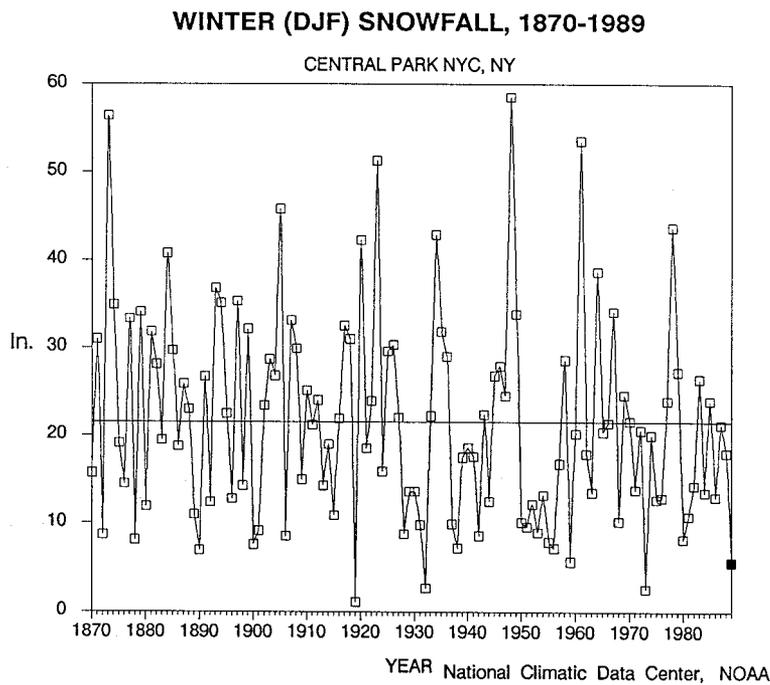


Figure 2



The Northeast Drought

A dry winter has raised concerns for water supplies in many northeastern areas and, in particular, the New York City area, as streamflow and reservoir levels are running well below normal. Winter precipitation was the third lowest since 1895 in the Northeast United States. Snowfall was remarkably light, as figures 1 and 2 suggest. Albany, New York, measured

the least snowfall since at least 1938-39 for the December-February period. In New York City, where records go back to 1869-70, this past winter was tied with 1958-59 as the fourth worst for snow lovers in the entire 119-year record. Of course, the snow season is not yet over, and the rain and snow received on March 20-21 will be of some benefit to area water supplies.

National Agricultural Summary

MARCH 13-19, 1989

HIGHLIGHTS: Winter wheat was mostly very poor to poor in Kansas. Rain was needed to sustain growth. Winter wheat was mostly fair to good in Oklahoma. Continued mild temperatures improved small grain condition in Texas. Snow cover was mostly adequate in the northern Plains. Winter wheat was mostly good in the Corn Belt and fair to good in the Delta and Southeast. Cotton planting began in Arizona and California and continued in Texas. Corn and sorghum plantings continued in Texas. Corn planting was active in portions of the Delta and Southeast. Rice planting was underway in Louisiana. Florida's citrus producing areas needed rain. Citrus harvest was active in California. Livestock was in mostly good condition.

SMALL GRAINS: In Kansas, winter wheat was mostly very poor to poor. Fields were greening up but needed moisture to sustain growth. Freeze damage was evident. Spring small grain planting progressed well. Winter wheat was mostly fair to good in Oklahoma. Lack of moisture stressed fields in the northwest. Continued mild temperatures improved small grain condition in Texas. Russian wheat aphid populations were increasing in the High Plains. In the Blacklands, earlier freeze damage was evident in some wheat varieties. Winter wheat was heading in southern Texas. Snow cover was mostly adequate in the northern Great Plains. Winter wheat was mostly fair to good in Montana. Some winterkill was evident in Oregon and Washington. In Oregon, producers continued reseeding wheat in the Columbia Basin. Lack of moisture stressed small grains in Riverside County, California. Small grains were heading in Arizona. Winter wheat was mostly good in the Corn Belt and fair to good in the Delta and Southeast. Winter wheat was heading in Alabama and Louisiana.

OTHER FIELD CROPS: Desert cotton planting began in California. Cotton planting also began in Arizona. Final seedbed preparation continued. In Texas, cotton planting continued where soil moisture was adequate. Planting was 4 percent (%) complete, 1 percentage point ahead of the 5-year average. Cotton seedbed preparation was 50% complete, 30 points ahead of normal in Oklahoma.

Corn planting continued in portions of the Delta and Southeast. In Texas, planting was 38% complete, slightly behind the 40% average. Corn planting was 30% complete, 9 points ahead of

normal in Alabama. Planting was 18% complete, 3 points behind normal in Louisiana.

In Texas, sorghum planting was 21% complete, 7 points behind the average. Seedbed preparation was 40% complete, 20 points ahead of normal in Oklahoma.

Tobacco beds were mostly good to fair in Georgia and North Carolina. Transplanting continued in Georgia. Rice planting was underway in Louisiana.

FRUIT AND NUTS: Florida's citrus producing areas needed rain. Irrigation was active in all areas. Blooms and new growth were abundant. Some frost-damaged trees were dropping leaves. Early orange harvest was virtually complete. Valencia orange harvest increased. In central and western Arizona, Valencia orange and grapefruit harvests continued. Kinnow tangerines were harvested in the central area. Valencia orange harvest continued in the Rio Grande Valley of Texas. Grapefruit harvest slowed. Peach trees were in full bloom in the east and just beginning to bloom in the Hill Country. Some damage from earlier cold temperatures was evident in the east. Citrus harvest was active in California. Peaches were mostly good to fair in Georgia.

VEGETABLES: In Florida, spring crop planting was active. Winter crop harvest continued. Harvest volume leaders were tomatoes, cabbage, celery, strawberries, peppers, potatoes, and lettuce. Vegetable harvest continued in Arizona. Onion, cabbage, and carrot harvests continued in the Rio Grande Valley of Texas. Celery harvest was nearing completion. Onion planting continued in the San Antonio-Winter Garden area. Potato planting began in the High Plains. Asparagus harvest was underway in the Delta region of California. Broccoli, cauliflower, and strawberry harvests continued in the Santa Maria area. Heavy supplies of broccoli and artichokes were available in the Salinas-Watsonville area. Fall potato harvest was virtually complete in the Perris-Hemet area. Processing tomato planting was underway in the Merced-Atwater area. Irish potato planting was 24% complete, 29 points behind normal in North Carolina.

PASTURES & LIVESTOCK: Livestock was in mostly good condition. Pastures were mostly fair to good in the Delta and Southeast. Below-normal temperatures stressed livestock in Minnesota.

State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service.

ALABAMA: Rainfall 0.50 to 1.00 in. Tennessee Valley, isolated areas central, south. Temperatures 10 to 15° above normal.

Days suitable for fieldwork 5.4. Soil moisture 21% short, 72% adequate, 7% surplus. Fieldwork progress 42% behind schedule, 53% on schedule, 6% ahead of schedule. Spring planting acreage 33% prepared, 31% 1988, 35% avg. Corn 30% planted, 23% 1988, 21% avg. Winter wheat 13% headed; 7% poor, 39% fair, 49% good, 5% excellent. Livestock good to fair. Stored feed 19% short, 81% adequate. Pastures fair to good. Pasture feed 40% short, 56% adequate, 4% surplus. Primary activities: Preparing land for spring planting; planting corn, spring vegetables, pine trees; applying fertilizer, lime to cropland, pastures; spraying fruit trees; soil testing; controlling weeds, topdressing small grains; routine care of livestock, poultry.

ARIZONA: Record high temperatures statewide 12th. Temperatures remained well above normal 13th to 17th. Considerable high cloudiness, gusty winds on 13th. Sunshine, warming trend continued 18th. Second consecutive dry week statewide. Temperatures 7 to 14° above normal.

Cotton planting began statewide. Soil conditions favorable western, central areas. Four percent planted statewide. Final seedbed preparations, furrowing, pre-plant herbicide applications, listing, pre-irrigation continued. Wheat, barley good; 86% jointing stage, 13% heading stage; 1988 progress 80%, 12% respectively. Irrigation continued. Corn planting progressed well. Alfalfa harvest continued, favorable curing conditions west. Fields monitored for Egyptian alfalfa weevil east, west. First cuttings began central areas. Valencia oranges, few grapefruit harvested west. Broccoli, cauliflower, head lettuce, boston, leaf, romaine lettuce; cabbage, kale, napa, escarole, bok choy, endive, spinach, anise harvest continued. Valencia oranges, grapefruit, kinnow tangerines harvested central areas. Greens, leaf lettuce, cabbage, bok choy, rapini, green onions, parsley, beets, turnips, spinach, leeks, carrots harvested Salt River Valley.

ARKANSAS: Warming trend continued. Temperatures above normal all areas. Temperature extremes 22°; 84°. Rains widespread, light latter part of week. Rainfall none to 0.85 in.

Soil moisture adequate. Wheat growth good, fertilizer applications continued. Some seedbed preparation on dry land. Fruit prospects good. Pasture growth average. Livestock good, ample feed.

CALIFORNIA: Storms continued to bring rain northern area. Snow higher elevations in mountains. Southern half State continued mild, little or no rain.

Rain, wet soils slowed field activities northern half. Early small grains stem elongation, few early boot. Weed controls, conditions permitted. Moisture approached critically dry western Riverside County small grains. Safflower, sugarbeets, good emergence. Earlier sugarbeets thinned, weeded, irrigated. Overwintered sugarbeet harvest began westside. Desert cotton planting began. First cut desert alfalfa hay good quality. Few central fields also cut. Alfalfa weevil spraying active. Preplant activities weather, soils permitted. Irrigation, weed control, herbicide application active. Stonefruits bloomed.

Citrus harvest active. Asparagus harvest underway Delta. Supplies light, rain curtailed field activity; quality excellent. Broccoli Salinas-Watsonville, Santa Maria heavy supply, variable quality. Harvest Merced-Atwater almost complete. Lettuce plantings Kingsburg-Dinuba irrigated, fertilized. Plantings also treated for weed control. Lettuce yields, quality Palo Verde Valley good. Fall potato harvest Perris-Hemet virtually complete. Spring planting continued. Fieldwork Tulelake-Butte Valley at standstill. Potatoes continued to move to market. Cauliflower light supply Santa Maria; demand exceeded supply. Artichokes Salinas-Watsonville heavy supply, variable quality. Strawberry shipments light Santa Maria, variable quality. Processing tomato plantings Merced-Atwater underway. Fields Kingsburg-Dinuba showing significant growth. Fresh market tomatoes transplanted. Bok choy, diakon, cabbage harvested, packed. Livestock remained good. Pasture, rangeland green-up due recent rains. Run-off filling ponds. Livestock movement light, supplemental feeding reduced.

COLORADO: Mostly fair, warm early week, high winds in mountains, along Front Range. Northern mountains light snow. Northeast cooler midweek with scattered showers, high winds again on 16th to 17th. Fair, warmer on 18th but increased clouds on 19th. Temperature 7 to 16° above normal, only none to trace mounts precipitation statewide.

FLORIDA: Warm, temperatures 10 to 12° above normal Panhandle, Big Bend; 2 to 6° above elsewhere. Extreme highs mid to upper 80s; extreme lows, low 50s Panhandle, north to mid 50s Peninsula. Few areas received rain, under 0.50 in., Panhandle; isolated areas over 1.00 in. Rain elsewhere, 0.25 in.

Soil moisture continued short; few widely scattered adequate. Dry soils slowed tobacco transplanting. Corn planting active. Farmers worked ground for other spring sown crops. Sugarcane harvest completed. Most permanent pastures greening up nicely from warmer temperatures. Limited rainfall, however, slowed growth, recovery many areas, particularly southern, west central, northern Peninsula, eastern Panhandle. Grazing, these areas variable, very poor to fair; elsewhere, mostly fair to good. Additional rain would benefit nearly all areas. Some cows with calves showing stress, drier areas. Cattle fair to good, depending largely upon amount, quality of forage, feed supplies. Frost damaged citrus trees dropping leaves. Moisture short, irrigating. New growth, bloom abundant. Early orange harvest all but completed. Valencia orange harvest increased. Grapefruit movement active. Temple harvest continued. Spring like weather over major vegetable producing areas. Very limited rainfall. Planting spring crops continued active. Harvest most winter crops steady. Volume leaders: Tomatoes, cabbage, celery, strawberries, peppers, potatoes, lettuce. Also available good volume: Sweet corn, snap beans, squash, carrots, radishes, eggplant.

GEORGIA: Warm temperatures 5 to 10° above normal extreme north, 10 to 15° above elsewhere. Rain 0.50 to 1.00 in. extreme north, under 0.50 in. elsewhere. Several areas south two-thirds no rain.

Days suitable for fieldwork 5.7. Soil moisture 2% very short, 38% short, 59% adequate, 1% surplus. Corn fair to good; 13% planted, ahead last year,

behind avg. Tobacco beds fair to mostly good; 8% transplanted, 7% avg. Wheat 8% very poor, 7% poor, 46% fair, 38% good, 1% excellent. Powdery mildew, Hessian fly damage south. Peaches 9% very poor, 9% poor, 30% fair, 44% good, 8% excellent; 83% blooming, 43% 1988, 71% avg. Little freeze damage, some varieties south lack required chill hours. Pastures fair to good. Cattle, hogs mostly fair to good. Main activities: Land preparation, planting corn.

HAWAII: Favorable weather. Mostly sunny mornings, some afternoon cloudiness. Rainfall light to moderate. Trade winds early week replaced by variable, light winds during second half week. Light winds allowed volcanic fumes to drift over island's east coast, forced ban on all types of burning starting on 16th. Temperatures mid 60s to low 80s. Daily rainfall none to 2.00 in. Winds variable 5 to 20 mph.

Days suitable for fieldwork 7.0. Head cabbage output steady, good quality. Chinese cabbage production below year ago, overall supplies moderate. Tomato production expected to increase. Head lettuce supplies light, but fields in improved condition. Overall tomato production higher. Papaya, banana production remained seasonally light. Sugarcane harvesting hampered along eastern coast by ban on burning. Sugarcane fields normally burned prior to harvesting to remove trash such as dried leaves. Any ban on burning results in more trash being brought to mill which lowers sugar recovery.

IDAHO: Temperatures slightly above normal. Precipitation above normal most northern areas, below normal elsewhere.

Wet conditions kept growers out of fields. Crop activities involved sorting, shipping seed potatoes, monitoring winter wheat fields for Russian wheat aphid infestation, pruning fruit trees, shopwork. Livestock activities revolved around calving, lambing, general livestock feeding, care. Complications still present from early February blizzard. Otherwise, livestock good. Hay, roughage mostly adequate; some areas very short to short.

ILLINOIS: Temperatures 6° below to 5° above normal. Precipitation less than 0.50 in. most areas, more than 1.00 in. parts southern half State.

Winter wheat 3% poor, 32% fair, 62% good, 3% excellent. No evidence significant winter damage yet. Some leaf browning, herbicide carry over damage. Soil moisture 57% short, 34% adequate, 9% surplus. Subsoil remains below normal northern two-thirds State. Hay 1% very short, 33% short, 64% adequate, 2% surplus. Livestock good to excellent. No significant health problems.

INDIANA: Temperatures slightly above normal. Lows teens to upper 20s, highs mid 40s to 70s. Precipitation 0.50 to 1.00 in. most areas.

Muddy fields limited activities. Other activities: Hauling grain, spreading fertilizer, topdressing wheat, equipment repair, attending meetings, purchasing supplies, tax preparation, set-aside seeding, mending fence, cleaning seed, care of livestock. Livestock good. Wheat greening up. Hay short to adequate.

IOWA: Temperatures 3 to 6° below normal. Extremes 5° Spencer 18th; 67° Burlington 14th. Precipitation traces to 0.57 in.

Farmers anxious to get in fields for spring planting. Livestock mostly good. Seed corn with escalating prices.

KANSAS: Temperatures 40° north central to 47° south central, generally normal north central to 6° above normal northwest. Only trace amounts of precipitation some areas. Dust storm 14th sustained winds excess 35 mph, gusts over 50 mph reduced visibility; caused wind damage western half State.

Days suitable for fieldwork 5.5. Topsoil moisture 79% short, 17% adequate, 4% surplus. Subsurface moisture 81% short, 19% adequate. Wheat greening up, some growth, no moisture to sustain growth. Freeze damage apparent. Most farmers spent week fighting wind erosion, applying fertilizer. Condition 39% very poor, 34% poor, 17% fair, 7% good, 3% excellent; continues to deteriorate. Oat, barley planting good progress. Seedbed preparation spring seeded crops underway where field conditions permit. Feed grain, hay, forage adequate, grazing short. Lambing, calving excellent progress, few problems.

KENTUCKY: Temperatures unseasonably warm; lows only 30s, highs 60s. Temperatures 5 to 15° above normal. Precipitation early, again over weekend. Precipitation less than 0.10 in. west to 1.00 in. east; 0.20 to 1.20 in. below normal.

Soil moisture ample, surplus amounts some low-lying areas. Field activity increased. Topdressing wheat, tobacco plantbed preparation, seeding primary activities. Wheat generally very good; green with new growth. Land preparation for row crops beginning on better drained soils. Livestock satisfactory. Mild, open winter conserved roughage feeds.

LOUISIANA: Temperatures 9° above normal. Extremes 38°; 89°. Rainfall less than 0.10 in.

Days suitable for fieldwork 5.5. Soil moisture 29% short, 59% adequate, 12% surplus. Spring plowing 31%, 17% 1988, 26% avg. Corn 18% planted, 8% 1988, 21% avg.; 1% emerged, 2% 1988, 7% avg. Rice 5% planted, 2% 1988, 6% avg.; 1% emerged, none 1988, 2% avg. Wheat 5% headed, 1% 1988, 3% avg.; fertilizing, disease scouting, applying fungicides as needed. Septoria, leafrust on small acreage St. Martin parish. Weed control, plowing stubble in sugarcane. Harvesting crawfish, strawberries. Spraying strawberries. Pastures showing growth, moisture needed. Livestock insect control measures active.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.10 in. Temperature 44°, normal 42°. Temperature extremes 17°; 77°.

Main farm activities caring for livestock, maintaining machinery. Some soil preparation for early crops.

DELAWARE: Precipitation 0.40 in. Temperature 43°, normal 43°. Temperature extremes 20°; 71°.

Main farm activities caring for livestock, maintaining machinery. Some soil preparation for early crops.

MICHIGAN: Temperatures 10° below to 1° above normal. Temperature extremes -11°; 63°. Precipitation 0.60 to 1.99 in. came in all forms; rain, freezing rain, sleet, snow.

Activities: Fields too soft for fieldwork down State, upstate snow covered. Sheep lambing. Good weather for cattle. Feed adequate to short. Marketing of livestock, crops continued.

MINNESOTA: Temperatures 7 to 12° below normal. Extremes -24°; 43°. Precipitation 0.04 to 0.21 in. below normal northern third, 0.18 to 1.08 in. above normal elsewhere. Precipitation 0.10 to 1.50 in. Greatest weekly total 1.72 in. Snowfall 1 to 3 in. northern third, 7 to 10 in. elsewhere.

Precipitation at all but one station.

Low temperatures continued to bother livestock.

MISSISSIPPI: Abnormally warm, very dry. Temperatures 66°, 11° above normal. Extremes 33°; 86°. Most stations no rain. Maximum weekly precipitation 0.57 in.; 1.34 in. below normal.

Days suitable for fieldwork 4.6, 2.9 1988, 2.7 avg. Soil moisture 5% short, 80% adequate, 15% surplus. Dry windy conditions reduced soil moisture. Wheat fair to good; 55% jointing, 32% 1988, 40% avg. Corn 8% planted, 7% 1988, 12% avg. Watermelons 7% planted, 3% 1988, 7% avg. Pastures, livestock good to fair. Weather optimum for drying soils, spring tillage. Activities: Fertilizing wheat, pastures statewide, planting corn, watermelons south, spring tillage statewide.

MISSOURI: Temperatures 7° above normal southeast to normal northwest. Precipitation very minor until 19th up to 1.00 in. some west central to east central counties.

Winter wheat coming out of dormancy, most fields green. Some Bootheel wheat hurt by water standing too long, losses uncertain. Farmers ready for fieldwork, tillage not started yet. Livestock water still very short supply northwest.

MONTANA: Precipitation none to 1.09 in. Heaviest amounts central, west, south. North central, most of east light amounts. Temperatures 1 to 10° below normal over most of State.

Topsoil moisture 30% short, 60% adequate, 10% surplus. Subsoil moisture 60% short, 40% adequate. Winter wheat 10% poor, 45% fair, 40% good, 5% excellent. Snow cover protection 5% poor, 20% fair, 45% good, 30% excellent. Wind damage to winter wheat to date 10% none, 55% light, 35% moderate. Cattle, calves generally 5% poor, 15% fair, 70% good, 10% excellent. Sheep, lambs generally 15% fair, 70% good, 15% excellent. Calving 45%. Lambing 40%.

NEBRASKA: Temperatures near normal Panhandle, 3° below normal remainder State. Precipitation occurred midweek varying trace amounts south up 0.30 in. northern areas. Extremes -1°; 74°.

NEVADA: Series fast moving ridges, troughs produced wide temperature fluctuations. Light rain scattered across northern valleys, several inches snow mountains. Southern areas dry, windy. Temperatures 3 to 8° above normal.

Fieldwork delayed by gusty winds, mild weather easy on newborn calves, lambs. Feeding made easier by open type weather. Good progress moving potatoes to market. Prices strengthening.

NEW ENGLAND: Precipitation (rainfall, water equivalent of snow) 0.50 to 0.75 in. northeast Vermont, coastal Massachusetts, Rhode Island, 0.25 to 0.50 in. remainder. Temperatures low 20s near Canadian border to near 40s south coast. Temperatures near normal.

Major farm activities: Tending livestock, maple sugaring, moving crops from storage.

NEW JERSEY: Temperatures above normal. Extremes 14°; 80°. Rainfall 0.31 in. north, 0.42 in. central, 0.54 in. south. Heaviest 24-hour total 0.64 in. on 15th, 16th. Estimated soil moisture percent field capacity 99% north, 97% central, 98% south. Four inch soil temperatures 32° north, 42° central, south.

Farmers cared for livestock, pruned fruit, repaired machinery. Soil preparation continued.

NEW MEXICO: Second consecutive week of above normal temperatures; no precipitation.

Days suitable for fieldwork 6.8. Soil moisture 90% short, 10% adequate. Irrigated wheat 17% poor, 33% fair, 50% good; dryland wheat 75% poor, 25% fair. Moisture badly needed. Cattle 50% fair, 50% good. Sheep 33% fair, 67% good. Ranges 13% poor, 74% fair, 13% good.

NEW YORK: Cold fronts 12th to 15th, brought only small amounts of snow or rain. On 12th generally less than 0.10 in. most stations but scattered amounts up to 0.20 in. some places. On 15th precipitation more scattered with only few hundredths of an inch from west to north. Strong frontal boundary became stationary over State 17th to 18th. Strong low pressure system that developed midwest moved along this boundary, brought significant precipitation many parts State. Less than 0.25 in. west to east Mohawk Valley, Hudson Valley, Catskills. Overall precipitation at or above normal western to northern areas, below normal southeast. Temperatures couple of degrees above normal. Cold days 12th, 13th, 16th offset by very mild days on 15th, 17th when temperatures climbed into 60s, lower 70s. Frontal boundary crossed area 17th, 18th produced daytime temperatures in 20s up north while same time temperatures in 60s, 70s southeast.

Maple syrup season accelerated. Warmer daytime temperatures needed to bring season to peak. Farmers tending livestock, spreading manure. Signs of spring plowing becoming evident.

NORTH CAROLINA: Temperatures 2 to 9° above normal across State. Temperature extremes 26°; 85°. Precipitation 0.03 to 1.90 in.

Days suitable for fieldwork 2.3. Soil moisture 2% short, 51% adequate, 47% surplus. Pasture 1% very poor, 6% poor, 32% fair, 58% good, 3% excellent. Oats 1% poor, 27% fair, 72% good. Barley 31% fair, 69% good. Rye 1% poor, 23% fair, 74% good, 2% excellent. Wheat 1% poor, 22% fair, 76% good, 1% excellent. Tobacco plantbeds 2% very poor, 5% poor, 30% fair, 63% good. Feed grains 4% short, 96% adequate. Hay, roughage 4% short, 94% adequate, 2% surplus. Irish potatoes 24% planted, 67% 1988, 53% avg.; 6% very poor, 35% fair, 59% good. Cabbage 32% transplanted, 44% 1988. Major farm activities: Topdressing small grains; general maintenance; equipment repair, tending livestock. Other activities: Preparing land for planting; pruning fruit trees; planting potatoes, cabbage; tending tobacco plantbeds.

NORTH DAKOTA: Temperatures 9° below normal northeast to 5° below normal south central. Extremes -20° northeast; 44° east central. Winter storm early week brought 6 to 13 in. snow extreme southeast. Precipitation 0.02 in. west central to 0.71 in. southeast.

Soil moisture short. Snow cover adequate for fall seedings, alfalfa. Hay, feed short to adequate with continued supplemental feeding. Calving, lambing progressing. Some scours, other calving problems attributed to poor feed quality. Limited farm activity included some farmers lining up seed supplies for spring.

OHIO: Lows upper 20s to low 30s; near normal. Highs low 50s to low 60s; 5 to 10° above normal. Precipitation subnormal 0.50 to 0.75 in.; heaviest northeast.

Soil temperatures at 4 in. under base soils low 40s, 30s to low 50s. No significant fieldwork started.

OKLAHOMA: Temperatures 4° above normal central to 9° above normal southeast. Precipitation none northwest third to 0.36 in. southeast.

Days suitable for fieldwork 5.2. Topsoil moisture 25% short, 55% adequate, 20% surplus.

Subsoil moisture 15% short, 85% adequate. Wheat 10% poor, 55% fair, 35% good; 10% jointing, 10% 1988, 15% avg. Fertilizer topdressing begun eastern areas. Growers west await rain before applying nitrogen. Wheat stressed for moisture northwest. Sorghum 40% seedbed prepared, 10% 1988, 20% avg. Cotton 50% seedbed prepared, 25% 1988, 20% avg. Pastures fair, some green-up. Cattle marketings average, prices stable to slightly lower than last week.

OREGON: Temperatures near normal; largest variations 3° above normal. Precipitation above normal most areas; coast about 4.00 in.; other western areas 1.00 to 2.00 in. except Eugene over 4.33 in.; generally 0.50 in. or less.

Soil moisture mainly surplus west, adequate to surplus east. Small grains improved with warmer weather Columbia Basin, elsewhere east where snow cover melted. Fieldwork for spring seeding under way. Some reseeded of damaged winter wheat continued. First fertilizer applications going on grain, grass seed fields Willamette Valley; also some early broadleaf herbicides applied. Pruning, dormant spraying progressed in tree fruits; slowed by wet weather west. Livestock mostly good. Range, pasture fair to good. Hay continued fairly short.

PENNSYLVANIA: Warm, dry; temperature 41°, 70° above normal. Temperature extremes 6°, 78°. Precipitation 0.36 in., 0.41 in. below normal.

Activities: Hauling manure; caring for livestock; maintaining machinery; fixing fences; grading potatoes; cutting firewood; early spring activities.

PUERTO RICO: Island rainfall 2.31 in., 1.74 in. above normal. Highest weekly total 7.30 in. Maricao, 4.42 in. Pico Del Este-Luquillo, 3.96 in. Ponce 4E. Highest 24-hour total 3.40 in. Borinquen Airport. Total rainfall since January 1st 10.10 in., 50% above normal. San Juan WSFO temperature 76°, 1° below normal. Total rainfall 1.49 in., 0.92 in. above normal. Divisional temperature 75 to 77° on coasts, 70 to 71° interior; mean station temperature 81° San Juan City to 62° Pico Del Este-Luquillo. Lowest minimum temperature 50° Adjuntas. Highest maximum temperature 90° Coloso, San Sebastian.

SOUTH CAROLINA: Temperatures 8 to 10° above normal. Precipitation less than 0.10 in. west to 1.25 in. east.

Farm activities included applying herbicides, topdressing tobacco, land preparation for spring planting as weather permitted, general farm maintenance.

SOUTH DAKOTA: Temperatures normal to 8° below normal. Extremes -13°, 72°. Several days of snow, rain. Heaviest precipitation central, lesser amounts north, south. Snow cover 6 to 12 in. north, trace south.

Winter wheat appears good. Little winterkill. Few north central counties with dry soils last fall have slight damage.

TENNESSEE: General rainfall less than 0.50 in. Temperatures above normal.

Main farm work preparing fields topdressing wheat, fertilizing pastures. Livestock good, adequate feed.

TEXAS: Remained under ridge of high pressure, skies fair to partly cloudy, temperatures soared record levels across many areas. Weak cold front midweek. Cold front 18th overrun by warm, moist air, scattered showers, thunderstorms west central,

south. Temperatures above normal, precipitation below normal.

Crops: Small grains trying to recover from cold weather, growth, greening increased with milder weather. Many oat fields showed heavy losses from cold. Wheat, rye pastures showed some improvement. High Plains Russian wheat aphids increased, producers concerned. Irrigation continued. Some topdressing occurred Blacklands, most fields greening. Some wheat varieties Blacklands sustained heavy damage from cold weather. Fields central could use good rain. Fields south heading. Corn planting increased rapidly. Early fields Blacklands emerging. Producers drier parts Valley, Coastal Bend stopped planting. Land preparation, prewatering resumed Plains. Corn 38% planted, 52% 1988, 40% avg. Grain sorghum planting good progress. Planting activities Valley, Coastal Bend winding down. Prewatering occurred Plains. Sorghum 21% planted, 32% 1988, 28% avg. Cotton planting continued where adequate moisture available, many areas too dry to begin. Land preparation occurred across much State. Cotton 4% planted, 5% 1987, 3% avg. Other field crops: Rice none planted, 3% 1988, 2% avg.

Commercial Vegetables: Rio Grande Valley warm conditions allowed melons good progress. Onion harvest increased. Harvest cabbage, carrots continued. Celery harvest winding down. Grapefruit harvest past peak, beginning to wind down many groves. Valencia harvest continued. San Antonio-Winter Garden, harvest continued vegetables. Onion planting continued. East some replanting. Other plantings continued. High Plains onion planting, transplanting to begin soon. Some producers planted potatoes. Trans-Pecos onions fair to good. Chile planting to begin soon. Peaches full bloom east. Some damage from recent cold. Trees Hill Country just beginning to bloom. Producers expect good crop. Trees north budding.

Range and Livestock: Ranges, pastures showing some improvement. Producers east beginning to fertilize as ground dried. Trans-Pecos sustained damage from range fires fueled by dry conditions. Livestock stressed because rapid changes temperatures. Calving, lambing operations continued.

UTAH: Precipitation light north, none south. Temperatures 9 to 12° above normal.

Soil moisture 22% short, 67% adequate, 11% surplus. Winter wheat mostly fair. Cattle fair to good. Sheep fair to good. Scattered supplemental feeding on range. Major farm activities: Hauling manure, repairing equipment, purchasing supplies, lambing, calving, livestock chores.

VIRGINIA: Above normal temperatures 2° north, east; 8° southwest. Variable precipitation, strong winded thunderstorms. Ranged 0.05 in. north, 1.30 in. east.

Days suitable for fieldwork 2.0. Topsoil moisture 8% short, 42% adequate, 50% surplus. Wheat 1% poor, 54% fair, 40% good, 5% excellent. Peaches 11% poor, 58% fair, 21% good, 10% excellent. Tobacco 26% poor, 64% fair, 10% good. Pasture 22% poor, 60% fair, 17% good, 1% excellent. Topdressing winter wheat, potato planting behind schedule. Seeding tobacco beds, spring fieldwork active dryer areas.

WASHINGTON: Temperatures 1 to 3° above normal west; none to 4° above normal east. Precipitation 1.01 to 2.25 in. west; none to 1.63 in. east.

Days suitable for fieldwork 0.47. Soil moisture 30% short, 70% adequate. Range, pasture 72% short, 28% adequate. Hay, other roughage 20% short, 30% adequate, 50% surplus. Limited field activities due

(Continued to back cover)

International Weather and Crop Summary

March 12-18, 1989

HIGHLIGHTS

WESTERN USSR ... The 13th consecutive week of unseasonably warm weather covers most of the region. Winter grains are breaking dormancy earlier than usual.

EUROPE ... Moderate to heavy rain continues across the northwest. Scattered showers benefit vegetative winter grains in the southwest.

SOUTH ASIA ... Scattered showers boost moisture reserves for immature grains in the north and east.

EASTERN ASIA ... Heavy rain favors vegetative winter grains but delays spring fieldwork across the Yangtze Valley. Rain benefits early crop rice in the south.

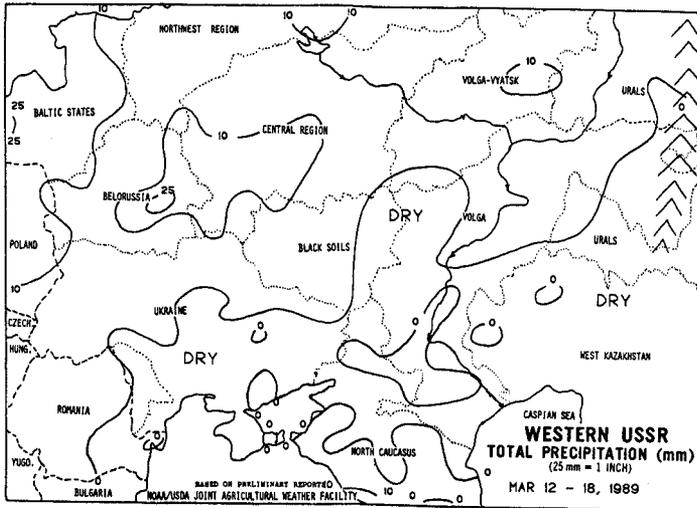
SOUTHEAST ASIA ... Showers taper off over Indonesia and Malaysia. Moderate to heavy showers continue over the Philippines.

SOUTH AMERICA ... Periodic showers cover crop areas in Argentina. In south-central Brazil, moderate rain in Mato Grosso do Sul slows early harvest activities.

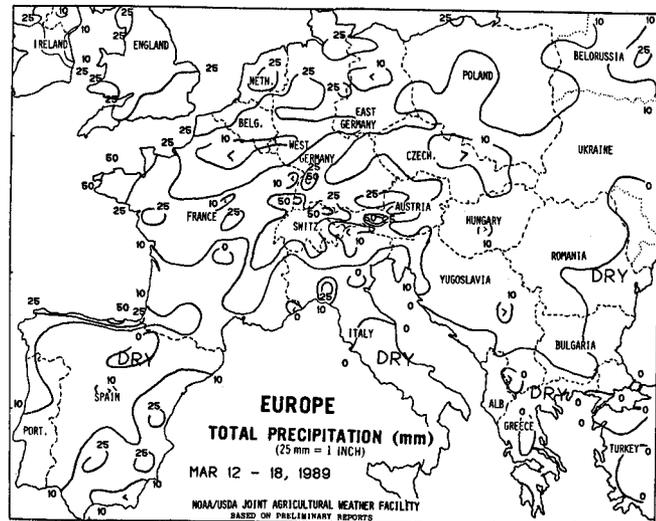
AUSTRALIA ... Heavy rain falls in most eastern crop areas.

SOUTH AFRICA ... Early-week showers benefit late planted, immature corn. Late-week, drier weather favors maturing crops.

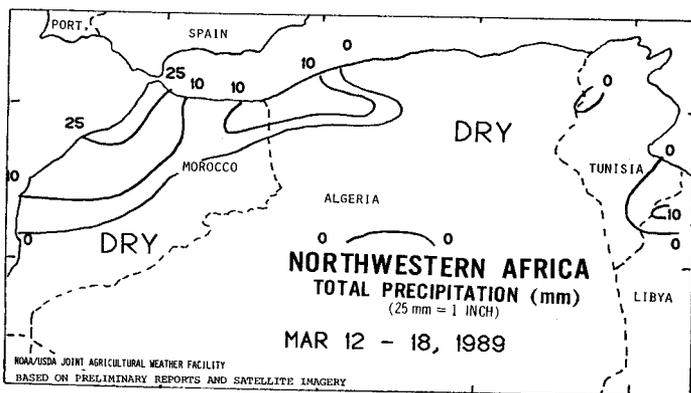
NORTHWESTERN AFRICA ... Late-week showers bring temporary relief to winter grains in Morocco and western Algeria. Dry weather stresses crops in central and eastern Algeria, and Tunisia.



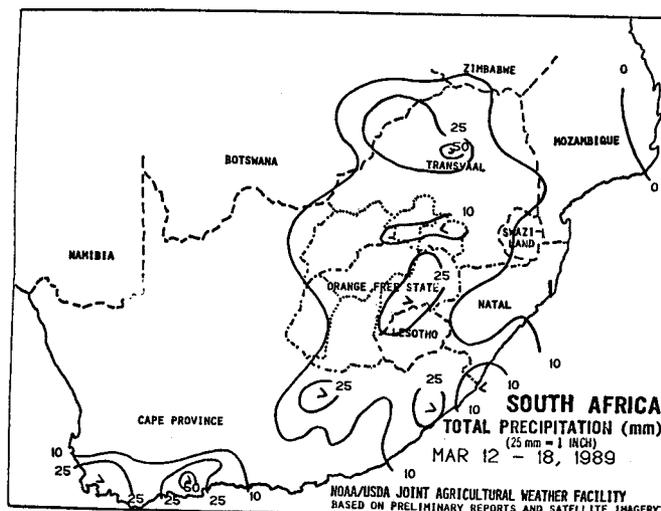
WESTERN USSR ... The 13th consecutive week of unseasonably warm weather covered winter grains over most of the region. Weekly average temperatures were 6-9 degrees Celsius (C) above normal over the western two-thirds of the region and 2-5 degrees C above normal in the east. Snow cover continued to retreat north and eastward. By week's end, the only winter grain areas that had a protective snow cover were those in the Volga Vyatsk and the Upper Volga. Winter grains continued to break dormancy about 3 weeks earlier than usual. Winter grains in the Ukraine and North Caucasus ranged from semi-dormant in northern areas to vegetative in the central and south. Precipitation continued light with mostly dry weather covering the southern Ukraine and the North Caucasus. Greatest amounts of precipitation (10-25mm) covered eastern Belorussia, the southwestern portion of the Central Region, and the Baltic States.



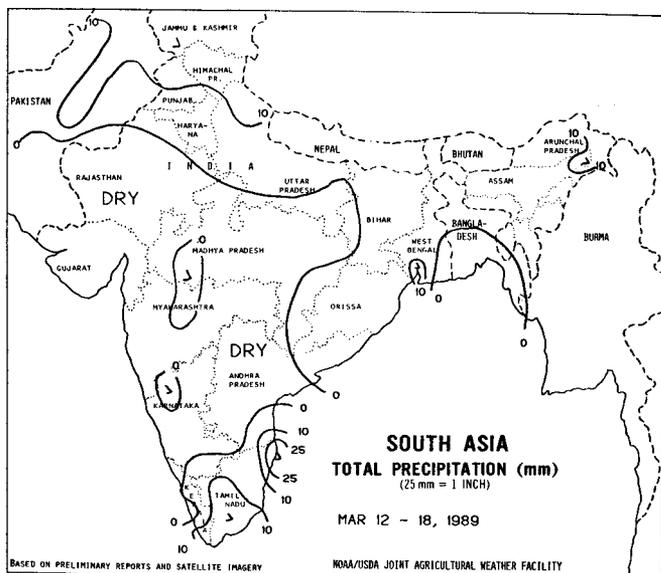
EUROPE ... Moderate to heavy rain (15-40mm) continued over sections of the United Kingdom, northern France, Benelux, and West Germany, bringing soils to near saturation. Light to moderate rain (5-20mm) fell over much of the east, favoring winter grains which broke dormancy several weeks ahead of normal due to persistent above-normal temperatures. In the south, scattered showers (5-25mm, with isolated amounts in excess of 25mm) benefited vegetative winter grains in growing areas of the Iberian Peninsula, southern France, and northern Italy. Much of southern Italy and the southern Balkans remained dry. Mean temperatures continued above normal in nearly all areas except the extreme northwest, where they were near normal.



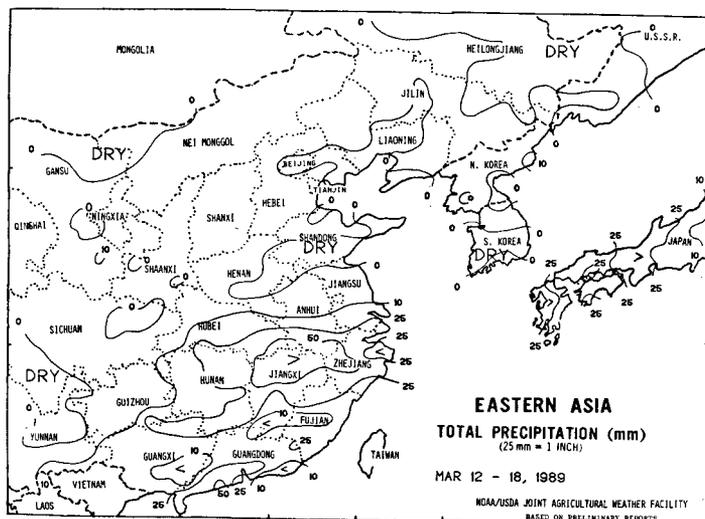
NORTHWESTERN AFRICA ... Winter grains were entering the reproductive phase of development over the entire region. Dry weather during most of the week in Morocco and western Algeria stressed winter grains. By week's end, light showers (10-25mm) brought temporary relief to crops in these areas. Dry weather persisted in central Algeria, causing crop conditions to deteriorate. Following last week's beneficial rainfall, dry weather returned to winter grain areas in eastern Algeria and Tunisia.



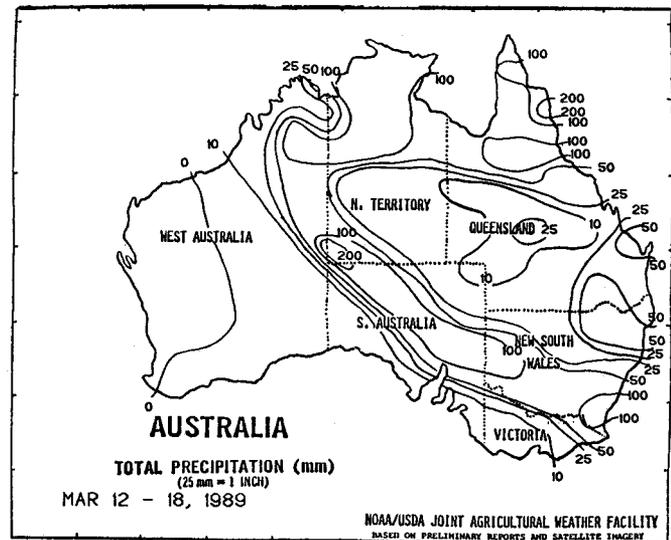
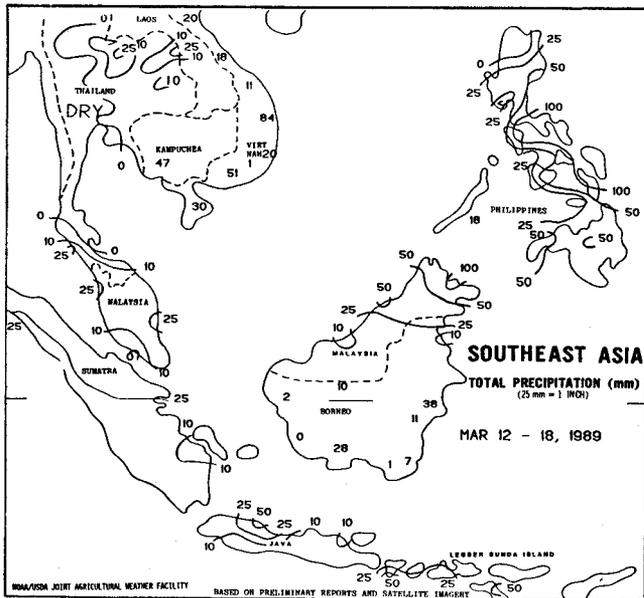
SOUTH AFRICA ... Early-week, light to moderate showers (10-25mm or more) covered the western and central Maize Triangle, benefiting late planted, immature corn. Drier, warmer weather returned later in the week, favoring filling to maturing corn. Maximum temperatures across the Triangle ranged from 28-32 degrees C. Elsewhere, light rain (1-13mm) covered most crop regions in Natal as variable showers (10-50mm or more) covered the Cape Province.



SOUTH ASIA ... Light to moderate rain (1-15mm) fell from northern Pakistan to northern Bihar, benefiting immature winter wheat. In the east, scattered showers (1-23mm) returned to crop areas from northern Orissa to India's far eastern states, boosting irrigation reserves for rice in stages of development ranging from jointing to filling. Dry weather returned to India's southern interior, but variable showers (3-49mm) covered Tamil Nadu, boosting irrigation reserves for immature rice. Temperatures averaged 1-3 degrees C below normal over most growing regions, with high temperatures over most southern rice areas ranging from 31 to 34 degrees C.



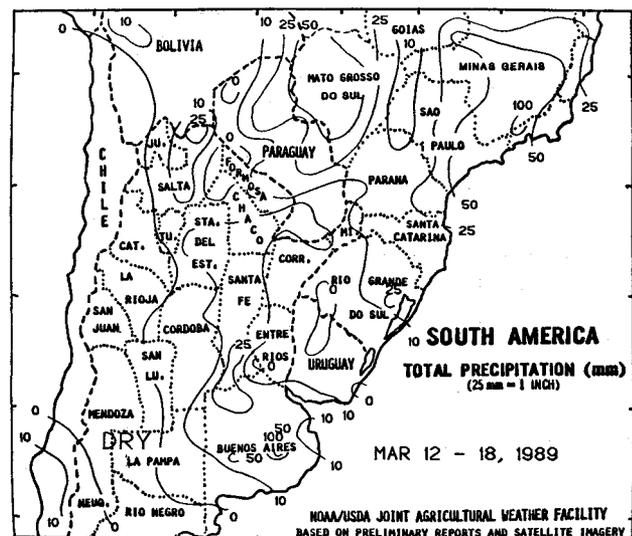
EASTERN ASIA ... Heavy rain (20-60mm, with scattered amounts greater than 60mm) fell over much of the Yangtze Valley, favoring vegetative winter crops, but delaying pre-planting fieldwork for spring planted crops. In the south, scattered showers (10-40mm, with isolated amounts in excess of 60mm) ended several weeks of below-normal rainfall and benefited newly planted early crop rice across sections of Guangxi, Guangdong, and Fujian. Elsewhere, scattered light rain and snow (less than 10mm) fell over northwestern China, Manchuria, and the Korean Peninsula, while the North China Plain remained mostly dry. In Japan, widespread rain (10-50mm) continued over most crop areas. Mean temperatures were above normal across the entire region, bringing some winter crops out of dormancy in the North China Plain.



SOUTHEAST ASIA ... Rainfall decreased from the previous week over Malaysia and Indonesia, with moderate rain (25mm or more) limited to local areas. Irrigation reserves continued adequate in most regions for rice ranging from the vegetative to filling stages of development. In Thailand, rainfall decreased from the previous week over secondary rice areas near Bangkok as seasonably warm weather returned. Light to moderate showers (1-25mm or more) covered rainfed rice regions to the northeast, but seasonably warm weather maintained high evaporation rates. Main season rice planting usually begins in April or May, coinciding with the beginning of the monsoon season. In the Philippines, moderate to heavy showers (25-50mm or more) covered a large area from central Luzon to northern Mindanao, with heaviest rainfall (100-175mm) from southern Luzon to the east-central islands.

AUSTRALIA ... A slow moving trough of low pressure set off showers and thunderstorms (20-150mm, with isolated rainfall in excess of 200mm) from interior sections of South Australia and Northern Territory southeastward to New South Wales and Victoria. The rainfall helped relieve dryness for rangeland in western sections of New South Wales but likely caused localized flooding in normally dry interior sections of the continent. Widespread rain (10-50mm) also covered most summer crop areas, benefiting some late planted crops but causing delays of early harvest. Heavy seasonal rain (20-50mm) in eastern coastal sections of Queensland continued mostly favorable conditions for vegetative sugarcane. Mean temperatures turned cooler than normal across all but the northeast, where they remained above normal.

SOUTH AMERICA ... In Argentina, periodic showers continued to ease the moisture deficiency throughout the major crop areas. Weekly rainfall averaged 20mm in Buenos Aires, 5mm in southern Cordoba, and 25mm in southern Santa Fe. The rain fell mostly during midweek. Early harvesting of corn, sorghum, and sunseed progressed some during the first half of the week, and dry weather returned by week's end. Recent moisture stabilized conditions for immature crops, which had been severely stressed by the earlier heat and drought. In south-central Brazil, early harvesting of corn and soybeans is underway, although the harvest season lags normal in Parana due to the late start of the growing season. Moisture is adequate for immature crops in most areas, except in southern Rio Grande do Sul where a drying trend has developed. Weekly rainfall averaged 10mm in Rio Grande do Sul and Parana. Moderate rain (around 50mm) in Mato Grosso do Sul slowed early harvesting.



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(Continued from p. 16)

to muddy fields. Spring run-off damage in fields Stevens, Douglas, Spokane Counties. Whitman, Franklin, Klickitat Counties winterkill of winter wheat, but active Russian wheat aphids. Assessment of winter crop damage continued. Freeze injury to blackberries, raspberries King, Pierce Counties.

WEST VIRGINIA: Temperature 48^o, 7 to 8^o above normal. Extremes 83^o Creston, Martinsburg; 16^o Beckley, Greenbank. Precipitation 0.54 in., below normal except extreme south. Extremes 1.10 in. Gary, 0.15 in. Moorefield.

Days suitable for fieldwork 4.3. Soil moisture 37% short, 58% adequate, 5% surplus. Wheat, barley fair to good. Livestock good to fair. Feed 7% very short, 29% short, 64% adequate. Farm activities: General farm maintenance, livestock care, plowing, fertilizing, sowing tobacco beds.

WISCONSIN: Temperature cold 23^o. Extremes -25^o; 53^o. Precipitation 0.50 to 1.20 in. Snow 6 to 10 in. central, east central, north central 14th to 15th; 5 to 10 in. central, east central 17th; 2 to 6 in. south 17th. Cold start to spring.

WYOMING: Temperatures near normal north central, northeast; elsewhere well above normal. Precipitation well above normal north half; south dry, below normal.

Winter wheat fair to good. Farmers starting to prepare land for spring planting. Livestock fair to good with supplemental feeding most areas. Calving, lambing, shearing continued. Warmer weather reducing stress on newborn lambs, calves.

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